# APPENDIX C.2

**Biological Resources Assessment**

# Biological Resources Assessment

The Ranch ±530- Acre Study Area
City of Rancho Cordova, California



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# Executive Summary

Foothill Associates' biologists synthesized the results of June 12 and 13, 2017, surveys within the 530-acre Study Area and past studies and biological reports to produce an up to date biological resources assessment of The Ranch Project located within the City of Rancho Cordova, California. The Study Area lies immediately east of Rancho Cordova Parkway and a half mile south of Douglas Road. The purpose of this document is to summarize the general biological resources within the Study Area, to assess the suitability of the Study Area to support special-status species and sensitive habitat types, and to provide recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring on the site.

The Ranch site (Study Area) consists of ±530 acres of land that is dominated by annual grassland that is bisected northeast to southwest by an intermittent drainage and interspersed with numerous vernal pools and other seasonal wetlands. Land uses surrounding the Study Area include livestock grazing and residential development.

Known or potential biological constraints in the Study Area include the following:

- Wetlands and other waters of the U.S. subject to Clean Water Act 404/401 and Section 1600 of Fish and Game Code regulations;
- Potential habitat for special-status plants Ahart's dwarf rush, dwarf downingia, pincushion navarretia, and hoary navarretia;
- Potential habitat for western burrowing owl;
- Assumed occupied habitat for federally-listed vernal pool branchiopods; and
- Potential habitat for western spadefoot, American badger, western pond, pallid bat, and nesting birds.

# 1.0 INTRODUCTION

This report summarizes the findings of previous surveys, studies, and reports as well as 2017 fieldwork completed for the approximate 530-acre Study Area, located within the City of Rancho Cordova, California. This document addresses the onsite physical features, as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring within the Study Area. Furthermore, the suitability of habitats to support special-status species and sensitive habitats are analyzed and recommendations are provided for any regulatory permitting or further analysis required prior to development activities occurring within the Study Area.

## *1.1. Project Description*

The Ranch, also known as Jaeger Ranch, The Preserve, and Sunridge 530, is a ±530-acre parcel located approximately five miles southeast of downtown Rancho Cordova. The Study Area lies immediately east of Rancho Cordova Parkway, north of Kiefer Boulevard, west of Grant Line Road, and south of Douglas Road. The proposed project involves grading portions of the site and filling approximately 6.54 acres of waters of the U.S., including wetlands, to construct a mixed-use development. Proposed development includes: 314.62 acres of low density residential and light commercial development.

# 2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. The CEQA significance criteria are also included in this section.

## *2.1. Federal Regulations*

### 2.1.1. Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

### 2.1.2. Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

### 2.1.3. The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof*." Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to*

*an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

## *2.2. State Jurisdiction*

### 2.2.1. California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

### 2.2.2. California Department of Fish and Game Codes

A number of species have been designated "fully protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.*" Additionally, Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.

### 2.2.3. Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants protected under the NPPA. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other Study Areas, changes in land use, and certain other situations require proper advance notification to CDFW.

## *2.3. Jurisdictional Waters*

### 2.3.1. Federal Jurisdiction

The U.S. Army Corps of Engineers (Corps) regulates discharge of dredge or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharges of fill material"

is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; Study Area-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions*" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a Study Area must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the Study Area.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "*that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas*" [33 C.F.R. §328.3(e)].

An aquatic feature is determined to be a water of the U.S. based on nexus with a traditionally navigable water pursuant to the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208) and agency guidance subsequent to this decision. Under these rules, the Corps asserts jurisdiction over wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries (i.e., waters that have a continuous flow at least three months out of the year), and wetlands that abut relatively permanent tributaries. The Corps determines jurisdiction over waters that are non-navigable tributaries that are not relatively permanent, and wetlands adjacent to these tributaries, by making a determination whether such waters "significantly affect the chemical, physical, and biological integrity of other jurisdictional waters more readily understood as "navigable." Finally, the Corps generally does not consider the following to be "waters of the United States": swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent or short duration flow) and ditches "wholly in and draining only uplands…which do not carry a relatively permanent flow of water." Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use as a means to transport interstate or foreign commerce up to the head of navigation.

### 2.3.2. State Jurisdiction

**Regional Water Quality Control Boards**

Discharges of fill or waste material to waters of the State are regulated by the State Water Resources Control Board (SWRCB) through its Regional Water Quality Control Boards (RWQCB) under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (contained in the California Water Code). All waters of the U.S. are also considered waters of the State. In addition, other aquatic features that are not subject to Corps' jurisdiction, such as roadside ditches or isolated wetlands, may be considered waters of the State. This determination will be made by RWQCB staff on a case-by-case basis.

Section 401 of the CWA requires an applicant to obtain "water quality certification" to ensure compliance with State water quality standards before certain federal licenses or permits may be issued. Section 13260(a) of the Porter-Cologne Water Quality Control Act requires any person discharging waste, including dredged or fill material, or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The permits subject to Section 401 include CWA Section 404 permits issued by the Corps. Waste discharge requirements under the Porter-Cologne Water Quality Control Act were typically waived for projects that required certification. Discharges to waters of the State that are not subject to a CWA Section 404 permit rely on the report of waste discharge process.

**California Department of Fish and Wildlife**

The CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "*substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601.*" Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over 4-inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

## *2.4. CEQA Significance*

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these

examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery Study Areas;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

### 2.4.1. California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere

- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

### 2.4.2. California Department of Fish and Wildlife Species of Concern

Some additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or are fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB), but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

## *2.5. Draft South Sacramento Habitat Conservation Plan*

The draft *South Sacramento Habitat Conservation Plan* (SSHCP) was released in February 2017. Its purpose is to streamline State and federal permitting processes for covered development projects that take place within signatory municipalities. It aims to protect habitat, open space, and agricultural lands through a number of Biological Goals, Measurable Objectives, and Conservation Actions enumerated in *Chapter 7 – Conservation Strategy* included in **Appendix A** (County of Sacramento 2017). The Ranch Project would fall under the jurisdiction of the SSHCP, if implemented, for purposes of estimating impacts to covered species and for estimating mitigation costs.

## *2.6. City of Rancho Cordova General Plan*

In addition to the federal and State regulations described above, the *City of Rancho Cordova General Plan* (General Plan) identifies goals, objectives, and policies to provide further protection to biological resources within the County's limits (City of Rancho Cordova 2006). Applicable General Plan policies are summarized below and included in **Appendix A**.

The General Plan's *Natural Resources Element* aims to identify "*the ways in which Rancho Cordova will protect, maintain, and enhance its natural resources*" enumerated by list of goals. Goal NR.1 seeks to "*protect and preserve diverse wildlife and plant habitat, including habitat for special status species.*" Goals NR.2 and NR.3 seek to preserve the areas wetlands and creek corridors. These goals are achieved through a number of policies and action items as described in the *Natural Resources Element* included in **Appendix A**.

# 3.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the **References** section. The following site-specific information was reviewed:

- California Department of Fish and Wildlife (CDFW). 2017. *California Natural Diversity Data Base* (CNDDB: *Citrus Heights, Folsom, Clarksville, Carmichael, Buffalo Creek, Folsom SE, Elk Grove, Sloughhouse, Carbondale* U.S. Geological Survey (USGS) 7.5-minute series quadrangles), Sacramento, CA. Accessed [07/11/2017] (**Appendix B**);
- California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants* (online edition, v8-02) (CNPS: *Citrus Heights, Folsom, Clarksville, Carmichael, Buffalo Creek, Folsom SE, Elk Grove, Sloughhouse, Carbondale* quadrangles). Accessed [07/11/2017] (**Appendix B**);
- U.S. Fish and Wildlife Service (USFWS). 2017. *Information for Planning and Conservation* (IPaC) *Trust Resource Report: The Ranch, Sacramento County*. Accessed [07/11/2017] (**Appendix B**);
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2017. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.html. Accessed [07/12/2017];
- U.S. Geological Survey. 1967. Photorevised 1980. *Buffalo Creek, California*. 7.5-minute series topographic quadrangle. United States Department of Interior; and
- Biological reports and associated documents previously prepared for the Study Area.

Prior to conducting a survey of the Study Area, existing information, including *The Ranch at Sunridge Project: Section 7 Biological Assessment* (Foothill Associates 2012), *Jaeger ±530-Acre Study Area: Wetland Delineation Report* (Foothill Associates 2005), *Special Status Plant Report ±530-Acre Peery Arrillaga Sunrise Douglas Site* (North Fork Associates 2002), and rare plant survey letter reports prepared by Foothill Associates in 2009 and 2017 for the Study Area were reviewed. The results of the special-status species records search and five-mile radius CNNDB query are summarized in **Appendix B**. The most recent field surveys of the Study Area were conducted on June 12 and 13, 2017. The Study Area was systematically surveyed on foot with binoculars to ensure total search coverage, with special attention given to identifying those portions of the Study Area with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed (**Appendix C**), as well as characterized biological communities occurring within the Study Area. Wetland features were previously delineated within the Study Area and verified by the Corps in 2014 (Corps 2014). Wetland polygons along the eastern boundary of Rancho Cordova Parkway were remapped in 2017 to address impacts that may have occurred during expansion of Rancho Cordova Parkway.

Following the Study Area survey, the potential for each species identified in the records search to occur in the Study Area was determined based within the Study Area surveys, soils, and species-specific information, as shown in **Appendix B**.

# 4.0 RESULTS

## *4.1. Study Area Location and Description*

The Study Area is located in the City of Rancho Cordova north of Kiefer Boulevard, east of Rancho Cordova Parkway, south of Douglas Road, and west of Grant Line Road. Land uses surrounding the Study Area include residential developments to the north and west and rangeland to the south and east. The Study Area is located within Section 16, Township 8 North, Range 7 East, of the USGS 7.5-minute series *Buffalo Creek, California* quadrangle. The approximate location of the center of the Study Area is 38° 32' 43.93" North, 121° 12' 55.20" West (**Figure 1**).

The Study Area consists of ±530 acres of land that is currently used for livestock grazing.

## *4.2. Physical Features*

### 4.2.1. Topography and Drainage

The general topography of the Study Area is gently undulating, generally sloping in a westerly direction with elevations ranging from 200 feet above mean sea level (MSL) at points along the eastern boundary of the Study Area to 170 feet above MSL in the central drainage channel at the western boundary of the Study Area (52 – 61 meters). The Study Area is crossed by an unnamed intermittent drainage that runs northeast to southwest and flows off the Study Area under Rancho Cordova Parkway and into Anatolia Preserve. The Study Area also contains numerous depressional and riverine wetlands. Water leaves the Study Area through the intermittent drainage as well as over land and through small riverine wetlands on the eastern and southern portions of the Study Area. Water enters the Study Area through the intermittent drainage as well as through seasonal precipitation.

The Study Area is located in the Upper Morrison Creek and Laguna Creek Watersheds. The Upper Morrison Creek Watershed encompasses approximately 50 square miles. Its main drainage, Morrison Creek, flows approximately 20 miles from the foothills in the east through the cities of Rancho Cordova and Sacramento. It drains into the Sacramento River. The Laguna Creek Watershed encompasses approximately 45 square miles. Its main drainage, Laguna Creek, flows 25 miles from the foothills in the east through the cities of Rancho Cordova, Elk Grove, and Sacramento. Historically a seasonal drainage, Laguna Creek now carries water throughout much of the year due to urban and agricultural runoff caused by increasing urbanization of the watershed in southern Sacramento County. Laguna Creek drains to Morrison Creek and ultimately to the lower Sacramento River.

### 4.2.2. Soils

The Natural Resources Conservation Service (NRCS) has mapped five soil units within the Study Area (**Figure 2**). The soil units that occur on Study Area include: **Fiddyment Fine Sandy Loam, 1 to 8 Percent Slopes**, **Hicksville Gravelly Loam, 0 to 2 Percent Slopes, Occasionally Flooded**, **Red Bluff-Redding Complex, 0 to 5 Percent Slopes**, **Redding Gravelly Loam, 0 to 8 Percent Slopes**,

and **Redding Loam, 2 to 8 Percent Slopes**. General characteristics associated with these soils types are described below.

- **Fiddyment Fine Sandy Loam, 1 to 8 Percent Slopes**: This moderately deep, well-drained soil is located on hills between 50 and 350 feet above MSL. This soil formed in material weathered from consolidated sandstone or siltstone. Permeability is very slow and available water capacity is low. As a result, this soil type takes a very long time to saturate and the capacity of the soil to hold water available for use by most plant species is low. This soil unit is typically used for rangeland, irrigated hay and pasture, or for dryland crops, such as wheat. Typically, vegetation on this soil unit consists mainly of non-native grasses and herbaceous plant species. The hydric soils list for Sacramento County does not identify any hydric inclusions occurring within this soil type.
- **Hicksville Gravelly Loam, 0 to 2 Percent Slopes, Occasionally Flooded**: This very deep, moderately well-drained soil is on low stream terraces and the alluvial flats adjacent to drainageways on high terraces and hills between 75 to 230 feet above MSL. This soil unit formed in alluvium derived from mixed rock sources. Permeability is moderately slow in this soil type and available water capacity is low. As a result, this soil type takes a moderately long time to saturate and the capacity of the soil to hold water available for use by most plant species is low. This soil type is typically used as rangeland or for irrigated crops. Typically, vegetation on this soil unit consists mainly of non-native grasses and herbaceous plant species. The hydric soils list for Sacramento County identifies two hydric inclusions occurring within this soil type, Columbia and Hicksville.
- **Red Bluff-Redding Complex, 0 to 5 Percent Slopes**: This soil complex is located on high terraces, between 90 to 310 feet above MSL. The Red Bluff soil is very deep and well drained. This soil formed in alluvium derived from mixed rock sources. This soil complex consists of approximately 45 percent Red Bluff soil and 40 percent Redding soil. Permeability is moderately slow and available water capacity is high in the Red Bluff soil. As a result, this soil type takes a moderately long time to saturate and the capacity of the soil to hold water available for use by most plant species is high. The Redding soil is moderately deep and moderately well drained. Permeability is very slow in the Redding soil and available water capacity is low. As a result, this soil type takes a long time to saturate and the capacity of the soil to hold water available for use by most plant species is low. This soil complex is used mainly as rangeland or to cultivate dry land crops, such as wheat. Typically, vegetation on this soil complex consists of non-native annual grasses and herbaceous plant species. The hydric soils list for Sacramento County identifies one unnamed hydric inclusion found within depressions of this soil type.
- **Redding Gravelly Loam, 0 to 8 Percent Slopes**: This moderately deep, well-drained soil type is located on high terraces and terrace remnants between 40 to 390 above MSL. This soil formed in gravelly and cobbled alluvium derived from mixed rock sources. Permeability is slow in Redding gravelly loam and available water capacity is low. As a result, this soil type takes a long time to saturate and the capacity of the soil to hold water available for use by most plant species is low. This soil unit is mainly used as rangeland for livestock grazing. In some areas this unit is used for irrigated hay and

pasture or for dryland crops, such as wheat. Typically, vegetation on this soil unit consists of non-native annual grasses and herbaceous plant species. The hydric soils list for Sacramento County identifies one unnamed hydric inclusion found within depressions of this soil type.

- **Redding Loam, 2 to 8 Percent Slopes**: This moderately deep, moderately well-drained soil is on high terraces and terrace remnants between 40 to 170 feet above MSL. This soil formed in gravelly and cobbly alluvium derived from mixed rock sources. Permeability is very slow in the Redding soil and available water capacity is low. As a result, this soil type takes a long time to saturate and the capacity of the soil to hold water available for use by most plant species is low. This soil type is typically used for rangeland and less frequently for dryland crops, such as wheat, or irrigated crops, such as hay. Typically, vegetation on this soil unit consists of non-native annual grasses and herbaceous plant species. The hydric soils list for Sacramento County identifies one unnamed hydric inclusion found within depressions of this soil type.

## *4.3. Biological Communities*

The primary terrestrial biological community that occurs within the Study Area is annual grassland. The following aquatic biological communities also occur within the Study Area: seasonal wetlands (depressional and riverine), vernal pools, intermittent drainage, seasonal wet swale, and a detention basin outfall. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. Dominant vegetation observed within each biological community is discussed in detail below. A comprehensive list of plants observed within the Study Area is provided in **Appendix C**. The location and extent of each biological community are depicted in **Figure 3**.

### 4.3.1. Annual Grassland

The plant community covering the majority of the Study Area is annual grassland, which accounts for approximately 506.07 acres of the Study Area and is characterized primarily by an assemblage of non-native grasses and forbs. Much of the vegetation in these communities is common to the Central Valley. Dominant grass species consists of Italian rye grass (*Festuca perennis*), rattail sixweeks grass (*Festuca myuros*), soft brome (*Bromus hordeaceus*), and slender wild oat (*Avena fatua*). Common dominant herbaceous non-natives include jointed charlock (*Raphanus raphanistrum*) and field bindweed (*Convolvulus arvensis*).

Annual grassland habitat supports breeding, foraging, and shelter habitat for several species of wildlife. Species expected to occur in this habitat include savannah sparrow (*Passerculus sandwichensis*), western meadowlark (*Sturnella neglecta*), black-tailed jackrabbit (*Lepus californicus*), and gopher snake (*Pituophis melanoleucus*).

### 4.3.2. Developed/Disturbed

A total of 2.45 acres of the Study Area is classified as developed/disturbed. This acreage is composed of paved and unpaved roads and an existing structure, a utility shed located in the northern-central portion of the Study Area. These areas primarily contain ruderal (weedy)

vegetation but may provide nesting or roosting substrate for some wildlife species such as birds and bats.

### 4.3.3. Seasonal Wetland

Seasonal wetlands account for 4.58 acres of the Study Area. The seasonal wetlands are depressional or riverine. Depressional seasonal wetlands consist of topographic folds that inundate or flow for short periods of time following intense rains, but do not maintain seasonal aquatic or saturated soils conditions for durations long enough for colonization by perennial, obligate plant species. Riverine seasonal wetlands occur in linear topographic depressions and are characterized by flowing water.

Dominant vegetation occurring within the seasonal wetlands includes: coyote thistle (*Eryngium vaseyi*), rabbitsfoot grass (*Polypogon monspeliensis*), hyssop loosestrife (*Lythrum hyssopifolia*), annual hairgrass (*Deschampsia danthonioides*), and Fremont's goldfields (*Lasthenia fremontii*).

### 4.3.4. Vernal Pool

Vernal pools account for 15.04 acres of the Study Area. Vernal pools are shallow, seasonally inundated depressional wetlands that form in soils with a subsurface layer that restricts the downward flow of water. Dominant vegetation within these features includes: coyote thistle, Mediterranean barley, and stalked popcornflower (*Plagiobothrys stipitatus*).

### 4.3.5. Intermittent Drainage

Intermittent drainages account for 1.54 acres of the Study Area. Intermittent drainages are features that may not meet the three-parameter criteria for vegetation, hydrology, and soils, but do convey water and exhibit an ordinary high water mark. Water flows within intermittent drainages are fed primarily by precipitation and stormwater runoff. Dominant vegetation within the intermittent drainages consists of coyote thistle.

### 4.3.6. Seasonal Wet Swale

The seasonal wet swale accounts for 0.06 acres of the Study Area and is located at the center of the southern boundary of the Study Area. Seasonal wet swales are not considered jurisdictional waterbodies, but do convey and hold water during and after storm events and can exhibit assemblages of wetland vegetation. Dominant vegetation of seasonal wet swales typically consists of grass and other wetland vegetation.

### 4.3.7. Detention Basin Outfall

The detention basin outfall accounts for 2.92 acres of the Study Area and is located near the eastern end of the northern border. The detention basin outfall is a manmade feature designed to convey periodic excesses of water from a reservoir along the eastern end of the northern border of the Study Area to the intermittent drainage that bisects the Study Area. Conveyed water drains through tailings placed at the southern end of the basin outfall. Aquatic species that may be present in the adjacent intermittent drainage are obstructed from entering the detention basin outfall. The detention basin outfall is heavily managed and receives periodic

high-intensity disturbance – the surface of the detention basin outfall is bare earth and is routinely scraped to remove all vegetation. It is not considered to be sensitive habitat or provide habitat for any special-status species.

## *4.4. Special-Status Species*

Special-status species are plant and animal species that have been afforded special recognition by federal, State, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rank 1-4 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, the USFWS, and CNPS ranked species (online versions) for the *Buffalo Creek, California* and eight surrounding quadrangles. **Appendix B** includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence in the Study Area. The following set of criteria has been used to determine each species' potential for occurrence in the Study Area:

- **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological surveys.
- **High**: Species known to occur on or in the vicinity of the Study Area (based on CNDDB records within five miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area.
- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area **-OR-** Species is not known to occur in the vicinity of the Study Area, however, there is suitable habitat within the Study Area.
- **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area -**OR-** Species was surveyed for during the appropriate season with negative results **-OR-** The Study Area occurs outside of the known elevation or geographic ranges.

Only those species that are known to be *present* or have a *high* or *low* potential for occurrence are discussed further in the following sections.

### 4.4.1. Listed and Special-Status Plants

According to the records search, 25 special-status plant species have the potential to occur on or in the vicinity of the Study Area. Based on field observations and literature review, four species were determined to have the potential for occurrence to occur within the Study Area. The following species are considered to have a *low* potential within the Study Area: Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*) dwarf downingia (*Downingia pusilla*), pincushion navarretia (*Navarretia myersii* ssp. *myersii*), and hoary navarretia (*Navarretia eriocephala*).

**Plant Species with a Low Potential for Occurrence**

Ahart's dwarf Rush

Ahart's dwarf Rush is ranked as a CNPS 1B species, which indicates that this species is rare, threatened, or endangered in California and elsewhere. It is a small annual herb that is found in vernal pool margins and grassland from 100 to 330 feet (30 to 100 meters) above MSL. The identification period is March through May. The vernal pools and grassland of the Study Area provide habitat for this species. Though this species has not been observed within the Study Area during previous site visits, there are two CNDDB records for this species within five miles of the Study Area (CDFW 2017). Therefore, this species has a *high* potential to occur within the Study Area.

Dwarf Downingia

Dwarf downingia is ranked as a CNPS 2B species, which indicates that this species is rare, threatened, or endangered in California but is more common elsewhere. It is an annual herb found in mesic areas within valley and foothill grassland and vernal pools from 3 to 1,460 feet (1 to 445 meters) above MSL. The identification period for this species is from March through May. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2017). This species has the potential to occur within the non-native annual grassland and vernal pools within the Study Area. There is a *low* potential for this species to occur within the non-native annual grassland and vernal pools within the Study Area.

Pincushion Navarretia

Pincushion navarretia is ranked as a CNPS 1B species. It is an annual herb found in vernal pools, which are often acidic from 66 to 1,083 feet (20 to 330 meters) above MSL. The identification period for this species is from April through May. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2017). This species has the potential to occur within the vernal pools within the Study Area. There is a *low* potential for this species to occur within the vernal pools within the Study Area.

Hoary Navarretia

Hoary navarretia is ranked as a CNPS 4 species. It is an annual herb found in mesic areas of mixed pine woodland, oak woodland, and grassland from 350 to 1,300 (105 to 400 meters) above MSL. The identification period for this species is from May through June. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW

2017). This species has the potential to occur within the grassland of the Study Area. There is a *low* potential for this species to occur within the Study Area.

### 4.4.2. Listed and Special-Status Wildlife

According to the records search, 50 special-status wildlife species have the potential to occur within the Study Area or in the vicinity. Based on field observations and literature review, 24 species were determined to have the potential to occur in the Study Area. Species that are known to be *present* or that are considered to have a *high* potential to occur within the Study Area include: vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), white-tailed kite (*Elanus leucurus)*, California linderiella (*Linderiella occidentalis*), western burrowing owl (*Athene cunicularia*), and western spadefoot (*Spea hammondii*). Species that are considered to have a I potential to occur within the Study Area include: grasshopper sparrow (*Ammodramus savannarum*), loggerhead shrike (*Lanius ludovicianus*), merlin (*Falco columbarius*), mountain plover (*Charadrius montanus*), short-eared owl (*Asio flammeus*), American badger (*Taxidea taxus*), pallid bat (*Antrozous pallidus*), blennosperma vernal pool andrenid bee (*Andrena blennospermatis*), an unnamed andrenid bee (*Andrena subapasta*), Ricksecker's water scavenger beetle (*Hydrochara ricksecker*i), hairy water flea (*Dumontia oregonensis*), and mid-valley fairy shrimp (*Branchinecta mesovallensis*).

**Wildlife Species with a High Potential for Occurrence**

Western Burrowing Owl – State Species of Concern

Western burrowing owl is a small ground-dwelling owl that occurs in western North America from Canada to Mexico, and east to Texas, and Louisiana. Although in certain areas of its range western burrowing owls are migratory, these owls are predominantly non-migratory in California (Zeiner *et. al.* 1990). The breeding season for western burrowing owls occurs from February to August, peaking in April and May (Zeiner *et. al.* 1990). Western burrowing owls nest in burrows in the ground, often in old ground squirrel burrows. This owl is also known to use artificial burrows including pipes, culverts, and nest boxes. There are 12 CNDDB records for this species within five miles of the Study Area (CDFW 2017), though no western burrowing owls were observed during site visits. The Study Area contains suitable burrows to support this species. Therefore, this species has as a *high* potential for occurrence.

Golden Eagle—California Fully Protected

Golden eagles live in semi-open habitats where they have easy access to their primary prey of small to medium-sized mammals. Grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats provide necessary foraging habitat. Nests are placed on cliffs or large trees and are maintained year and after year. Breeding occurs from January through August. Golden eagle home range territories are estimated to average 48 square miles in northern California (Zeiner *et al.* 1990). Breeding territories range from 8 to 21 square miles, or three to five miles surrounding the nest, but activity is often concentrated in a smaller core area. Although only one nest is used each year, a territory may contain multiple alternate nests. There is one CNDDB record of golden eagle documented within five miles of the Study Area

(CDFW 2017). No golden eagles were observed during previous site visits. Although the Study Area does not provide suitable nesting trees, the non-native annual grassland provides foraging habitat for this species. Therefore, this species has as a *high* potential for occurrence.

White-tailed Kite—California Fully Protected

White-tailed kite is listed as California Fully Protected. White-tailed kite is a year-long resident in coastal and valley lowlands in California. White-tailed kite breed from February to October, peaking from May to August (Zeiner *et. al.* 1990). This species nests near the top of dense oaks, willows, or other large trees. There are three CNDDB records of white-tailed kite documented within five miles of the Study Area (CDFW 2017). One white-tailed kite was observed foraging within the annual grassland during the June 12, 2017 rare plant survey. The annual grassland provides suitable foraging habitat for this species. Therefore, this species is considered to be *present* within the Study Area.

Nesting Birds and Raptors

The nests of raptors and most other birds are protected under the MBTA. Raptors are also protected by Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. Additionally, the USFWS and CDFW identified a number of avian species of conservation concern that do not have specific statutory protection. Avian species forage and nest in a variety of habitats throughout Sacramento County. As shown in **Appendix B**, the annual grassland on and surrounding the Study Area may provide nesting and foraging habitat for raptors and other protected birds, including: ferruginous hawk, grasshopper sparrow, merlin, mountain plover, and short-eared owl. Raptors and other protected migratory birds have a *high* potential to occur in the Study Area.

Vernal Pool Branchiopods with High Potential for Occurrence

The records search indicated that three species of vernal pool branchiopods occur within five miles of the Study Area: vernal pool fairy shrimp (*Branchinecta lynchi*), a federally threatened species, vernal pool tadpole shrimp (*Lepidurus packardi*), a federally endangered species, and California linderiella (*Linderiella occidentalis*), a California Special Animal. These species require continuous inundation typically ranging from six to eight weeks to complete their lifecycle (Nature Serve 2017). The vernal pools in the Study Area provide habitat for these species and there are 22 known CNDDB occurrences of vernal pool fairy shrimp, 43 CNDDB occurrences of vernal pool tadpole shrimp, and 25 CNDDB occurrences of California linderiella within five miles of the Study Area (CDFW 2017); therefore, these species a *high* potential for occurrence within the Study Area.

Western Spadefoot

Western spadefoot occurs throughout the Central Valley and on the coast from Point Conception, south to the Mexican border. This species occurs from sea level up to 4,500 feet (0 to 1400 meters) above MSL in the southern Sierra foothills. Western spadefoot individuals are most commonly found in grassland habitats with temporary pools of water, but they have also been found in open chaparral and valley-foothill pine-oak woodlands (Stebbins 2003). This species spends most of the year underground, where individuals seek refuge from desiccating

by constructing and residing in small burrows. This species often breeds in temporary pools and quiet streams between the months of January and May that remain inundate for at least six weeks. The vernal pools and depressional seasonal wetlands in the Study Area provide breeding habitat and there is one known occurrence within five miles of the Study Area (CDFW 2017). Therefore, this species has a *high* potential to occur within the Study Area.

**Wildlife Species with a Low Potential for Occurrence**

American Badger—California Species of Concern, Species of Local Concern

American badger is a California Species of Special Concern. American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, sandy soil. Breeding occurs in summer and early fall, with young being born from March to April (Nature Serve 2017). There are no CNDDB records for this species within five miles of the Study Area (CDFW 2017). The annual grassland and burrows provides marginal habitat for this species given the lack of sandy soils within the Study Area. No American badgers were observed during the biological surveys. Therefore, this species has a *low* potential to occur within the Study Area.

Pallid Bat—California Species of Concern

California is home to several special-status bat species, including the pallid bat. Bat numbers are in decline throughout the U.S. due to loss of roosting habitat, habitat conversion, and habitat alteration. There are no CNDDB records for this species within five miles of the Study Area (CDFW 2017). No bat species were observed roosting during previous site visits. The sparse man-made structures, including utility towers and a utility shed in the center of the Study Area, provide marginal day roosting habitat and the annual grassland provides foraging habitat for this species. Therefore, this species has a *low* potential to roost within the Study Area and could utilize the Study Area for foraging.

Vernal Pool Branchiopods with Low Potential for Occurrence

The records search indicated that two species of vernal pool branchiopods other than those listed above have the potential to occur within the Study Area or vicinity: Mid-valley fairy shrimp (*Branchinecta mesovallensis*), a California Special Animal, and hairy water flea (*Dumontia oregonensis*), a California Special Animal (CDFW 2017). These species require continuous inundation typically ranging from six to eight weeks to complete their lifecycle (Nature Serve 2017). The vernal pools in the Study Area provide habitat for these species though there are no CNDDB occurrences within five miles of the Study Area for either species. Therefore, these species have a *low* potential for occurrence within the Study Area.

Blennosperma Vernal Pool Andrenid Bee and Unnamed Andrenid Bee—California Special Animals

The blennosperma vernal pool andrenid bee and another Andrenid Bee without a common name (*Andrena subapasta*) are small, ground-nesting bees found in the upland areas near vernal pools wherever blennosperma flowers and other grassland forbs are present. They are generally slender and dark-olive green with pale apical bands on the dorsum of the metasomal segments. The species were not observed during previous site visits. The uplands and vernal

pools may provide habitat for these species if they support blennosperma populations other appropriate grassland forbs; however, there are no known CNDDB occurrences within five miles of the Study Area (CDFW 2017). Therefore, these species have a *low* potential to occur within the Study Area.

Ricksecker's Water Scavenger Beetle—California Special Animal

Ricksecker's water scavenger beetle is an aquatic beetle that is a California Special Animal. This species inhabits a wide variety of aquatic habitats, including creeks and shallow ponds. The waterbodies within the Study Area provide potential habitat for this species, though this species has not been observed within the Study Area during previous site visits. There are no CNDDB occurrences for this species within five miles of the Study Area. Therefore, this species has a *low* potential to occur within the Study Area.

## *4.5. Sensitive Habitats*

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, and/or Sections 401 and 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the proposed *South Sacramento Habitat Conservation Plan*. Sensitive habitats known to occur within the Study Area, which include aquatic features are vernal pools, seasonal wetlands, seasonal swale, and intermittent drainage.

### 4.5.1. Jurisdictional Waters of the U.S. and State

Jurisdictional waters of the U.S. and State located in the Study Area total approximately 22 acres. This acreage includes depressional seasonal wetlands (2.92 acres), vernal pools (15.04 acres), riverine seasonal wetlands (1.66 acres), intermittent drainages (1.54 acres), and seasonal wet swale (0.06 acres) (**Figure 3**). To date, potential wetland areas in the Study Area have been formally delineated and the Corps has verified these acreages. As discussed in **Section 2.3**, jurisdictional waters of the U.S. are subject to Section 404 of CWA and are regulated by the Corps.

# 5.0 CONCLUSIONS AND RECOMMENDATIONS

As discussed, the Study Area consists of land that supports primarily annual grassland, developed/disturbed, seasonal wetlands, vernal pools, intermittent drainage, and seasonal wet swale. **Table 1** summarizes the biological communities and expected impacts from the proposed project. Proposed project impacts are shown in **Figure 4**.

**TABLE 1 — IMPACTS TO BIOLOGICAL COMMUNITIES**

| Habitat Types | Project Impacts | Previously Permitted Impacts | City (CIP) Impacts | SSHCP Buffer Acreage | Preserved Acreage | Total Acreage |
|---|---|---|---|---|---|---|
| ***Wetlands*** | | | | | | |
| Depressional Seasonal Wetland | 1.04 | — | — | 0.03 | 1.85 | 2.92 |
| Vernal Pool | 4.75 | 0.02 | 0.18 | 0.12 | 9.97 | 15.04 |
| Riverine Seasonal Wetland | 0.51 | 0.01 | — | <0.01 | 1.15 | 1.66 |
| Intermittent Drainage | — | <0.01 | — | — | 1.53 | 1.54 |
| Seasonal Wet Swale | 0.06 | — | — | — | — | 0.06 |
| Detention Basin Outfall | — | — | — | — | 0.30 | 0.30 |
| ***Biological Communities*** | | | | | | |
| Annual Grassland | 305.15 | — | 0.51 | 13.16 | 187.16 | 506.07 |
| Developed/Disturbed | 2.43 | — | — | — | 0.03 | 2.45 |
| **Total** | **313.93** | **0.03** | **0.69** | **13.31** | **201.98** | **530.05** |

Note: Acreage may not add across rows or columns due to rounding.

Known or potential biological constraints in the Study Area include the following:

- Wetlands and other waters of the U.S. subject to Clean Water Act 404/401 and Section 1600 of Fish and Game Code regulations;
- Potential habitat for special-status plants Ahart's dwarf rush, dwarf downingia, pincushion navarretia, and hoary navarretia;
- Potential habitat for western burrowing owl;
- Assumed occupied habitat for federally-listed vernal pool branchiopods; and
- Potential habitat for western spadefoot, American badger, western pond turtle, pallid bat, and nesting birds.

## 5.1. Special-Status Plant Species

As discussed previously, portions of the Study Area contain suitable habitat for four special-status plant species that are known to occur in the vicinity and were not the targets of the June 12 and 13, 2017 botanical survey. The non-listed special-status species include Ahart's dwarf rush, dwarf downingia, pincushion navarretia, and hoary navarretia. Ground disturbance associated with the project would result in the temporary disturbance of 0.09 acres and permanent removal of 318.82 acres of annual grassland, which provides habitat for potentially occurring special-status plants. Temporary disturbance and permanent removal would impact special-status plants, if present, through removal of individuals and elimination of their habitat.

Since the June 12 and 13 botanical survey was not conducted during the bloom period when these species are identifiable, prior to construction a qualified botanist should conduct a botanical survey in May when all four potentially occurring special-status plant species will be within their evident and identifiable bloom period as specified by Avoidance and Mitigation Measure (AMM) PLANT-1 in the SSHCP. The results of these surveys should be documented in a letter report to City of Rancho Cordova. If no special-status plants are observed during the recommended botanical surveys, no additional measures are recommended.

If any special-status plant covered by the SSHCP are identified within 250 feet of areas of potential construction disturbance, they should be avoided to the extent feasible. If they cannot be avoided, the Implementing Entity will assure one unprotected occurrence of the species is protected within a SSHCP Preserve before any ground disturbance occurs at the project site in accordance with SSHCP AMM PLANT-2. If any federally-listed plants not covered by the SSHCP are identified within areas of potential construction disturbance, they should be avoided to the extent feasible. If the federally-listed plants cannot be avoided, Section 7 consultation would be required and a biological opinion from the USFWS would need to be obtained prior to transplantation and commencement of construction activities. Similarly, if any state-listed plants not covered by the SSHCP occur within the project footprint, they should be avoided to the extent feasible. If the state-listed plants cannot be avoided, an Incidental Take Permit would be required from the CDFW. Additional measures may be required through the consultation process with the CDFW and/or the USFWS, including compensatory mitigation or transplanting and monitoring.

## 5.2. Western Spadefoot

No western spadefoot toads were observed during previous site visits. However, the annual grassland provides suitable upland habitat and vernal pools provide suitable breeding habitat for this species. Vegetation clearing within the annual grassland and filling of the vernal pools could impact this species if present. In addition, construction equipment and vehicle movement could impact these species if present within the project footprint.

Western spadefoot is a covered species under the SSHCP and there are six AMMs that apply to this species. If covered activities must be implemented during the wet season (October 15 through May 15), exclusion fencing must be installed around the project footprint, temporary high-visibility construction fencing must be installed along the edge of work areas, and silt

fencing must be installed immediately behind the temporary high-visibility construction fencing to exclude western spadefoot per AMM WS-2. Additionally, the project site must be monitored daily by an approved biologist and construction personnel must be trained on the required avoidance measures per AMM WS-3. AMM WS-4 stipulates that all excavated steep-walled holes and trenches greater than six inches deep must be covered with plywood to avoid western spadefoot entrapment. AMM WS-5 specifies that BMP-2, if implemented, must be implemented using non-entangling erosion control material such as coconut coir matting and fiber rolls containing burlap. If a western spadefoot is encountered during construction activities, the approved biologist must notify the CDFW immediately and construction activities must be suspended within a 100-foot radius of the animal until the animal leaves the project site on its own volition as required by AMM WS-6.

## *5.3. American Badger*

The annual grassland provides habitat for American badger. A qualified biologist should conduct a pre-construction survey for American badger within 14 days prior to the start of ground disturbance. If no American badgers are observed, then a letter report documenting the results of the survey should be provided to the project proponent for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If American badgers or their dens are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a Worker Awareness Training to all construction workers, and being present on the Study Area during grading activities for the purpose of temporarily halting construction activities until the biologist determines that the badger has left the construction footprint on its own accord.

## *5.4. Vernal Pool Branchiopods*

As discussed previously, vernal pools in the Study Area represent potential habitat for special-status invertebrate species including mid-valley fairy shrimp, vernal pool fairy shrimp, California linderiella, hairy water flea, and vernal pool tadpole shrimp. The USFWS typically considers vernal pool branchiopod habitat to be indirectly impacted by fill or development activities within 250 feet of the habitat. However, the 250-foot indirect impact area may be reduced based on Study Area-specific information such as topography or hydrologic data indicating that activities can encroach closer than 250 feet without impacting those habitats or their watersheds. Temporary disturbance and filling of vernal pools would impact vernal pool branchiopods, if present, through removal of individuals and elimination of their habitat.

Protocol-level surveys, consisting of a dry-season and wet-season survey, can be conducted to determine the presence or absence of these species. If the species are absent and USFWS accepts the survey findings, then no mitigation for listed vernal pool branchiopods is likely required. If the species are present, or if the project proponent decides to assume presence without conducting the surveys, then mitigation for listed vernal pool branchiopods would be required.

If mitigation for listed vernal pool branchiopods is required and the project has a federal nexus (e.g., is pursuant to a Corps permit, is federally funded, or occurs on federal land), impacts to listed vernal pool invertebrates can be addressed through Section 7 consultation with the USFWS. If the project does not have a federal nexus, the project proponent, through coordination with USFWS, can prepare a Habitat Conservation Plan under Section 10 of FESA. Typically, the USFWS requires compensatory mitigation for impacts to these species at a 3:1 ratio. Possible mitigation opportunities include creation of habitat within the Study Area or off-site preservation and creation of vernal pools or purchase of vernal pool credits at a qualified mitigation bank. If the SSHCP is approved, the project proponent can also pay the appropriate habitat mitigation fee for impacts to suitable habitat for listed fairy shrimp.

## *5.5. Swainson's Hawk*

Although no Swainson's hawks were observed on the property, the Study Area is considered potential foraging habitat for this species since they are known to nest within five miles of the Study Area and because it is within foraging habitat modeled as modeled by the SSHCP. The nearest recorded nest location is approximately half a mile east of the northeast corner of the Study Area. Currently, the CDFW recommends that impacts to suitable Swainson's hawk foraging habitat within 10 miles of an active nest should be mitigated by securing a conservation easement or fee title on suitable Swainson's hawk foraging habitat in the region. Currently, this translates to the following: (1) for projects within a one-mile radius of an active nest site, the project proponent should preserve 1.0 acre of similar habitat for each acre lost, (2) for projects within a one to five-mile radius of an active nest site, the project proponent should preserve 0.75 acre of similar habitat for each acre lost, and (3) for projects within a five to ten-mile radius of an active nest site, the project proponent should preserve 0.5 acre of similar habitat for each acre lost.

In the case of a conservation easement, the applicant should prepare and implement a Swainson's hawk mitigation plan to the satisfaction of CDFW that includes the preservation of Swainson's hawk foraging habitat on the appropriate amount of foraging acreage. The lead agency under CEQA, in coordination with CDFW, would determine what mitigations would be appropriate for impacts to Swainson's hawk foraging and nesting habitat.

If the SSHCP is approved, the project proponent can also pay the appropriate habitat mitigation fee for impacts to Swainson's hawk foraging habitat or participate in the City of Rancho Cordova habitat mitigation program for Swainson's hawk. The project proponent may also choose to purchase approved offsite mitigation bank credits.

## *5.6. Burrowing Owl*

Although burrowing owls were not observed during previous site visits, the Study Area contains annual grassland that is potentially suitable habitat for burrowing owl and portions of the Study Area are modeled as burrowing owl habitat by the SSHCP. Vegetation clearing activities within the annual grassland could impact potential nest Study Areas for this species. In addition, noise and vibration associated with construction activities in the vicinity of annual grassland could result in nest abandonment.

SSHCP AMM WBO-1 requires an initial burrowing owl survey of the Study area and surrounding 250 feet, where accessible. Transects must be no more than 50 feet apart and all burrows must be mapped.

If the project site does not avoid all suitable habitat mapped by the initial survey, then AMM WBO-2 requires a minimum of two pre-construction survey started no more than 15 days before the onset of construction activities to document the presence or absence of burrowing owls.

If burrowing owls or evidence of burrowing owls are observed within the Study Area or surrounding 250 feet, then AMM WBO-3 requires that 250-foot non-disturbance buffers be established around occupied burrows. If construction activities must take place within these buffer areas then a third-party project proponent must develop an avoidance, minimization, and monitoring plan that is approved by the CDFW. If construction activities take place during the non-breeding season (September 1 through January 31), then the third-party project proponent may request approval from the CDFW for a qualified biologist to excavate unoccupied burrows.

AMM WBO-4 requires the monitoring of the construction buffer zones by an approved biologist and the training of construction personnel by the biologist on avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.

Conditions for approved passive relocation of burrowing owls are specified by AMM WBO-5; conditions for and appropriate methods of rodent control are specified by AMM WBO-7.

## *5.7. Golden Eagle Foraging Habitat*

A known golden eagle nest is located within five miles of the Study Area. Given the territory size of foraging golden eagles, the site could potentially be within the pair's foraging territory. There is not suitable nesting habitat for golden eagles onsite. The annual grassland onsite provides suitable foraging habitat for golden eagle. While the project would result in the removal of approximately 306 acres of suitable foraging habitat, the onsite preserve protects approximately 187 acres of suitable foraging habitat. In addition, mitigation would be required for impacts to Swainson's hawk foraging habitat which would also serve as potential foraging habitat for golden eagle. Therefore, additional measures beyond habitat mitigation has specified for Swainson's hawks and pre-construction nesting bird surveys as specified in **Section 5.8** are not recommended for this species.

## *5.8. Other Raptors and Migratory Birds*

Several species of raptors and other migratory birds may forage and nest in the Study Area, including the special-status species white-tailed kite and loggerhead shrike. Active nests are protected by the California Fish and Game Code Section 3503.5 and the MBTA. Construction activities could result in disturbance of nest Study Areas through temporary increases in ambient noise levels and increased human activity. In addition, vegetation clearing operations, including pruning or removal of trees and shrubs, could impact nesting birds if these activities

occur during the nesting season (February 1 to August 31). All vegetation clearing including removal of trees and shrubs should be completed between September 1 to January 31, if feasible.

Because construction activity will occur in modeled habitat for covered raptor species, AMM RAPTOR-1 requires that a qualified biologist conduct a field investigation to determine if existing or potential nesting sites are present within the project footprint or surrounding 0.25-mile area where accessible.

If potential or existing nest sites are found during the initial surveys and if construction activities will take place during the breeding season (February 1 to August 31), then AMM RAPTOR-2 requires pre-construction surveys to be conducted within 30 days and three days of ground disturbing activity to determine if active nests are present within the project footprint or surrounding 0.25-mile area where accessible.

If active nests are found within the project footprint or surround 0.25-mile area, then AMM RAPTOR-3 requires that a 0.25-mile temporary nest disturbance buffer be created around the active nest until the young have fledged.

If project-related construction activities within the temporary nest disturbance buffer are determined to be necessary, then AMM RAPTOR-4 requires that an approved biologist be retained to monitor the nest daily throughout the nesting season. Work within the temporary nest disturbance buffer can occur with the written permission of the CDFW. If nesting raptors begin to exhibit agitated behavior then the approved biologist will have the authority to shut down construction activities and the biologist, third-party project proponent, and CDFW will meet to determine the best course of action to avoid nest abandonment or take of individuals. Additionally, the approved biologist will train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone.

## *5.9. Pallid Bat*

The existing grassland provides suitable foraging habitat and the existing utility shed provide potential roosting habitat for the pallid bat within the Study Area. Removal of man-made structures could impact bats should they be roosting in areas proposed for removal.

A qualified biologist should conduct a preconstruction survey within 14 days prior to clearing or grading operations and removal of any potential roosting site substrates. If no bats are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If special-status bat species are present and roosting on or within 100 feet of the Study Area, then the biologist should establish an appropriate buffer around the roost site. At minimum, no potential roosting structures should be removed until the biologist has determined that no bats

are roosting in the structure. Additional mitigation measures for bat species, such as installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for various bat species.

## *5.10. Sensitive Habitats*

**Table 2** summarizes the sensitive habitats and expected impacts from the proposed project. Proposed Project impacts to sensitive habitats are shown in **Figure 4**.

**TABLE 2 — IMPACTS TO SENSITIVE HABITATS**

| Sensitive Habitats | Impacted Acreage | Preserved Acreage | Total Acreage† |
|---|---|---|---|
| Depressional Seasonal Wetland | 1.04 | 1.85 | 2.89 |
| Vernal Pool | 4.75 | 9.97 | 14.72 |
| Riverine Seasonal Wetland | 0.51 | 1.15 | 1.66 |
| Intermittent Drainage | 0.01 (temporary) | 1.53 | 1.54 |
| Seasonal Wet Swale | 0.06 | — | 0.06 |
| **Total** | **6.58** | **14.5** | **20.87** |

†Total acreages do not account for buffer areas or non-sensitive habitats.

### 5.10.1. Jurisdictional Waters

Proposed construction activities will impact approximately 6.58 acres of aquatic features located in the Study Area (**Figure 4**).

A Section 404 permit should be obtained from the Corps and a Section 401 Water Quality Certification should be obtained for the Regional Water Quality Control Board (RWQCB) prior to the start of construction that will impact any water of the U.S, and water of the state. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed should be replaced or rehabilitated on a "no-net-loss" basis in accordance with the Corps mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the agencies. A Lake and Streambed Alteration Notification (SAA) should also be prepared and submitted to CDFW for impacts to features under CDFW jurisdiction.

Water quality concerns during construction would be addressed in a Section 401 water quality certification from the Regional Water Quality Control Board. A Storm Water Pollution Prevention Plan (SWPPP) would also be required during construction activities. SWPPPs are

required in issuance of a National Pollutant Discharge Elimination System (NPDES) construction discharge permit by the U.S. Environmental Protection Agency. Implementation of Best Management Practices (BMPs) during construction is standard in most SWPPPs and water quality certifications. Examples of BMPs include stockpiling of debris away from regulated wetlands and waterways; immediate removal of debris piles from the Study Area during the rainy season; use of silt fencing and construction fencing around regulated waterways; and use of drip pans under work vehicles and containment of fuel waste throughout the Study Area during construction.

A Lake and Streambed Alteration Agreement from CDFW may also be required for impacts to wetlands and other waters. A Streambed Notification should be submitted to CDFW for review to determine if a streambed agreement is necessary.

## *5.11. Summary of Avoidance and Minimization Measures*

- Obtain a 404 permit, 401 Water Quality Certification, and SAA prior to the start of construction;
- Conduct pre-construction surveys for Ahart's dwarf rush, dwarf downingia, pincushion navarretia, and hoary navarretia in May;
- Conduct pre-construction burrowing owl protocol surveys between February and June.
- Assume presence of listed vernal pool branchiopods and mitigate according to SSHCP unless project proponent wants to conduct focused surveys;
- Conduct pre-construction surveys for western spadefoot, American badger, western pond turtle, pallid bat, and nesting birds prior to the start of construction as applicable and
- Conduct worker awareness training at the start of construction for potentially occurring special-status species.

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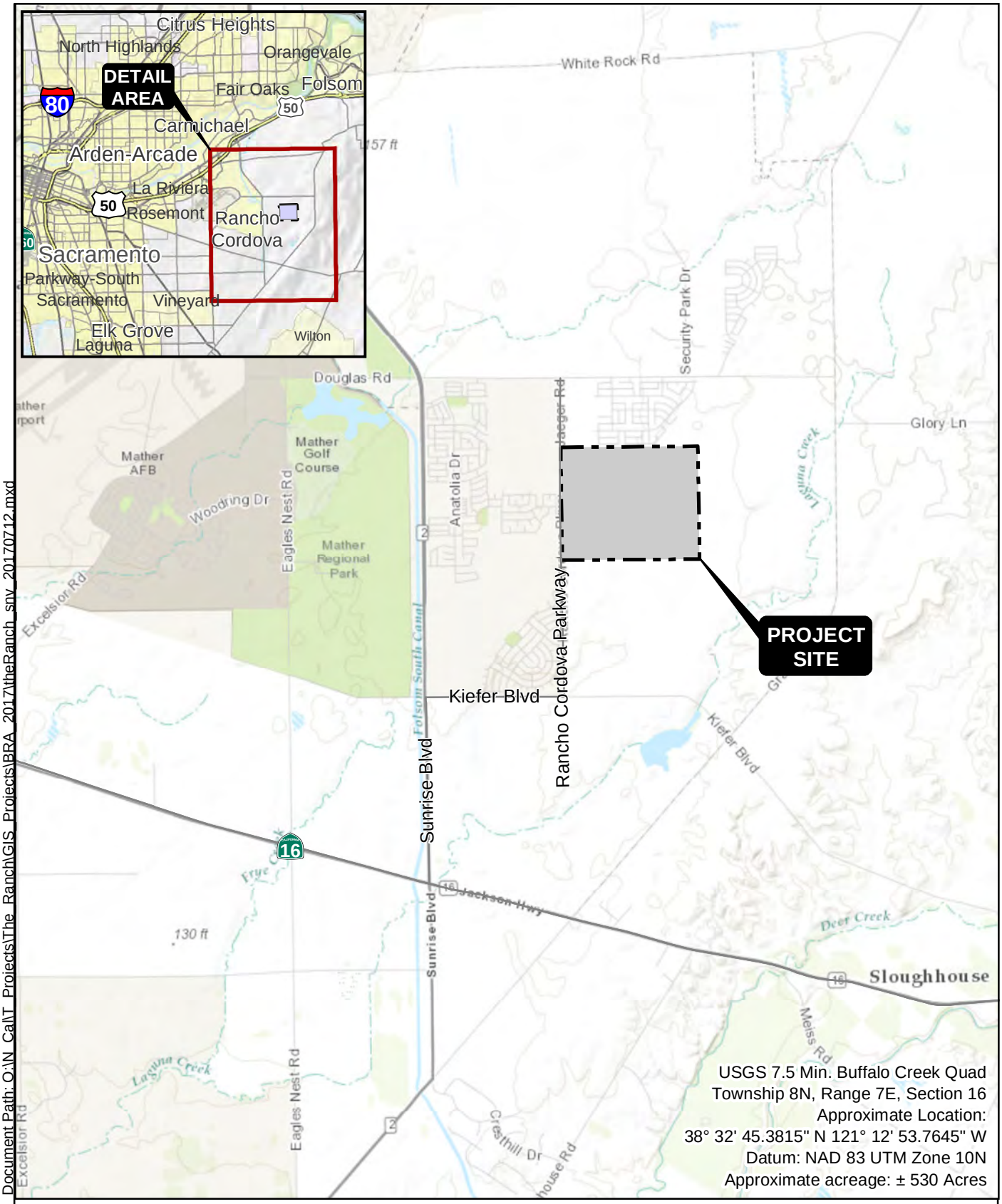


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# SITE AND VICINITY

FOOTHILL ASSOCIATES
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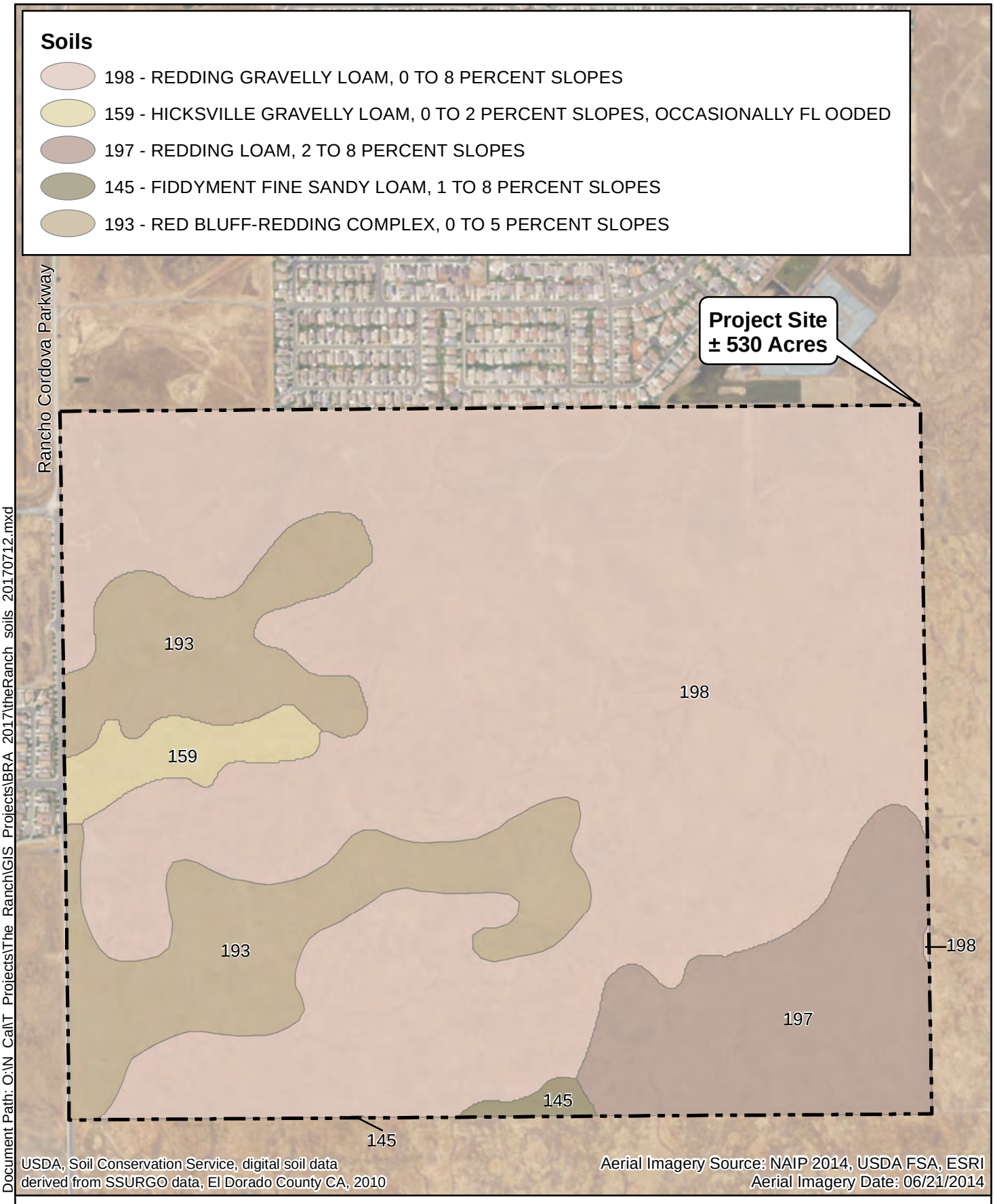
**FIGURE 1**

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# SOILS

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FIGURE 2



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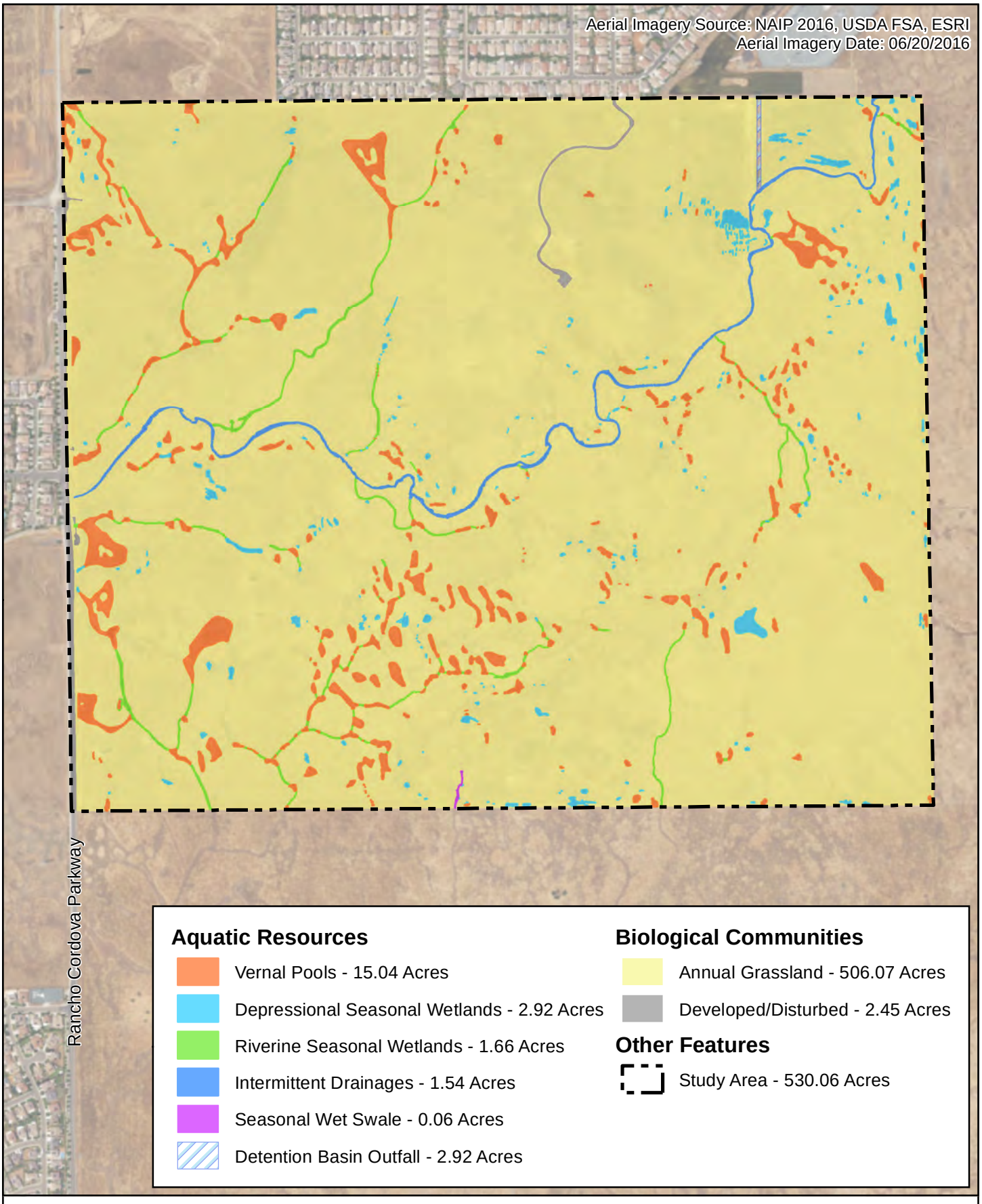


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# BIOLOGICAL COMMUNITIES

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FIGURE 3



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| Habitat Types | Preserved (Acres) | Buffer Area (Acres) | Project Impact (Acres) | City Capital Improvement Projects Impact (Acres) | Past Impact (Acres) | Temp. Impact (Acres) | Total (Acres) |
|---|---|---|---|---|---|---|---|
| *Wetlands:* | | | | | | | |
| Depressional Seasonal Wetland | 1.85 | 0.03 | 1.04 | | | | 2.92 |
| Vernal Pool | 9.97 | 0.12 | 4.75 | 0.18 | 0.02 | | 15.04 |
| Riverine Seasonal Wetland | 1.15 | <0.01 | 0.51 | | 0.01 | | 1.66 |
| Intermittent Drainage | 1.53 | | | | <0.01 | 0.01 | 1.54 |
| Seasonal Wet Swale | | | 0.06 | | | | 0.06 |
| Detention Basin Outfall | 0.30 | | | | | | 0.30 |
| *Subtotal:* | 14.80 | 0.15 | 6.36 | 0.18 | 0.03 | 0.01 | 21.53 |
| *Biological Communities:* | | | | | | | |
| Annual Grassland | 187.16 | 13.16 | 305.15 | 0.51 | | 0.09 | 506.07 |
| Developed/Disturbed | 0.03 | 0.00 | 2.43 | | | | 2.45 |
| *Subtotal:* | 187.18 | 13.16 | 307.57 | 0.51 | | 0.09 | 508.52 |
| **Total** | **201.98** | **13.31** | **313.93** | **0.69** | **0.03** | **0.10** | **530.05** |

**Other Features**

- Development Footprint ± 315 Acres
- Preserve Buffer ± 13 Acres
- Preserve Boundary ± 202
- Project Boundary ± 530 Acres

Rancho Cordova Parkway

Aerial Imagery Source: NAIP 2016, USDA FSA, ESRI
Aerial Imagery Date: 06/20/2016

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Drawn By: JFI QAQC: MUB Date: 07/27/2017 © 2017

# IMPACTS TO BIOLOGICAL COMMUNITIES

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FIGURE 4

THE RANCH

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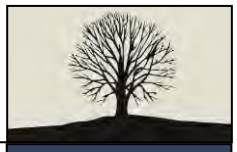
# Appendix A — Applicable Sections of the City of Rancho Cordova General Plan



# TABLE OF CONTENTS

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# IX NATURAL RESOURCES ELEMENT

## VISION STATEMENT

Rancho Cordova will achieve a balance of natural resources and urban form through the compatible preservation of natural resources within the man-made environment. Natural resources will be protected, conserved, and reflected in the built environment. Creek corridors, preserves, trees, and open space areas will enhance neighborhoods and public spaces. The community's water resources will be conserved and protected from contamination. All new development will be consistent with stormwater regulations and protect against erosion. The community will strive to conserve energy and to recycle construction materials, green waste, and consumer goods.

## INTRODUCTION

Natural resources connect with urban life in many ways, providing an important relationship between humans and the natural environment; including biological resources, and water resources. Ensuring quality management and protection of the City's numerous natural resources will contribute to Rancho Cordova's environmental health as well as to quality of life for residents. The City will become a leader in natural resource conservation, managing natural resources to ensure long-term sustainability while evaluating new opportunities and techniques in conservation.

## PURPOSE

The Natural Resources Element identifies the ways in which Rancho Cordova will protect, maintain, and enhance its natural resources for the betterment of current residents and future generations. In combination, the Natural Resources Element and the Open Space, Parks and Trails Element represent the conservation element of the General Plan. The Open Space, Parks and Trails Element contains details on the City's Open Space Plan. It also attempts to balance the present needs of resource users with the need for resource conservation for the common good. The goals, policies, and actions in this Element will foster the preservation of Rancho Cordova's many valuable natural resources, including wildlife, habitat, water resources, soils, and mineral resources.



## RELATED PLANS AND PROGRAMS

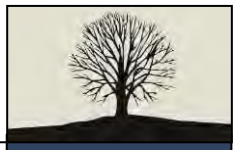
The Natural Resources Element relates to several other federal, State and local plans and programs, including the following:

- **National Environmental Policy Act.** The National Environmental Policy Act (NEPA) is a federal environmental review process for projects that have a federal nexus (e.g., impact federal resources or lands, receive federal funding, or require federal approval or permits). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. This Element is consistent with the intent of NEPA. It contains a goal and supporting policies and actions related to protecting and preserving diverse wildlife and plant habitat.

- **Federal Endangered Species Act.** The Federal Endangered Species Act (FESA) is a federal law that protects species that are endangered or threatened with extinction. FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined as harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3). Actions in this Element require the City to coordinate with federal agencies on wetland preserves and creek corridors.

- **Vernal Pool Recovery Plan.** The U.S. Fish & Wildlife Service's Vernal Pool Recovery Plan (Recovery Plan) covers 33 plant and animal species that occur exclusively or primarily within the California and southern Oregon vernal pool ecosystem. As drafted, the Recovery Plan identifies a five-part strategy to ameliorate or eliminate threats to affected species and to preserve intact vernal pools. This Element contains a goal, policies and actions related to preserving wetlands.

- **Section 404 of the Clean Water Act (404 Permits).** Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into waters of the United States (waters of the U.S.), including wetlands and vernal pools. Activities in waters of the U.S. that are regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. This Element contains a goal, policies and actions related to preserving and mitigating for the loss of wetlands.



- **Section 401 of the Clean Water Act (Water Quality Certification).** Section 401 of the Clean Water Act requires a State Water Quality Certification for all federal permit or license applications for any activity that may result in a discharge to a water body to ensure compliance with state water quality standards. Most Certifications are issued in connection with section 404 permits for dredge and fill discharges. The Central Valley Regional Water Quality Board issues Section 401 water quality certifications for projects in Rancho Cordova. This Element contains a goal with supporting policies and actions related to creeks and a goal with supporting policies and actions related to water quality.

- **Section 402 of the Clean Water Act (NPDES Permits).** Section 402 of the Clean Water Act establishes permit programs to authorize discharge of storm water from municipal storm sewer systems. Rancho Cordova has a Municipal Stormwater Permit under the National Pollutant Discharge Elimination System (NPDES) Permit Program with Sacramento County, Elk Grove, Galt and the City of Sacramento. The Regional Water Quality Control Board, Central Valley Region, issues and administers the Sacramento NPDES municipal stormwater permit. This Element contains a policy and supporting actions related to urban runoff and discharging materials into creeks.

- **California Environmental Quality Act.** The California Environmental Quality Act (CEQA) is the State's environmental review process that requires public agencies to identify the significant environmental effects of a project and either avoid the significant environmental effects, where feasible, or mitigate the significant environmental effects, where feasible. This Element contains an action that specifically requires CEQA analysis of projects.

- **California Endangered Species Act.** The California Endangered Species Act is the State's listing of endangered and threatened species. It requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing CEQA documents to ensure that the state lead agency actions do not jeopardize the existence of listed species. This Element contains a goal and supporting policies and actions related to protecting and preserving diverse wildlife and plant habitat, and an action requiring coordination with CDFG on Swainson's hawk mitigation.

- **California Fish and Game Code.** The California Fish and Game Code contains laws and regulations relating to California's fish, wildlife, plants, and their habitats. The Code is administered by the California Department of Fish and Game. This Element contains a goal and supporting policies and actions related to protecting and

preserving diverse wildlife and plant habitat, and an action requiring coordination with CDFG on Swainson's hawk mitigation.

- **Surface Mining and Reclamation Act.** The Surface Mining and Reclamation Act (SMARA) addresses the need for a continuing supply of mineral resources and to prevent or minimize the negative impacts of surface mining to public health, property and the environment. SMARA's requirements apply to all surface mining operations in California that disturb more than one acre or remove more than 1,000 cubic yards of material including, but is not limited to, prospecting and exploratory activities, dredging and quarrying, streambed skimming, borrow pitting, and the stockpiling of mined materials. This Element contains a goal and supporting policies and actions related to environmentally sensitive extraction of minerals and reclamation.

- **California Integrated Waste Management Act.** The California Integrated Waste Management Act (CIWMA) requires each city and county to prepare, adopt, and submit to the California Integrated Waste Management Board a source reduction and recycling element (SRRE) that demonstrates how the jurisdiction will meet the IWMA's mandated diversion goals. This Element contains a goal and supporting policies and actions related to waste reduction, reuse, recycling and composting.

- **California Public Resources Code, Sections 41500-41510.** The Public Resources Code (PRC) requires each city and county to prepare, adopt and submit to the Waste Management Board a program for the safe collection, recycling, treatment, and disposal of hazardous wastes that are generated by households. This Element contains a goal and supporting policies and actions related to recycling and a goal and supporting policies and actions related to recycling of hazardous materials.

- **South Sacramento Habitat Conservation Plan (SSHCP).** The South Sacramento Habitat Conservation Plan (SSHCP) is a mitigation plan being prepared and managed by Sacramento County that seeks strategies that allow commercial, residential, and other development, while balancing the needs of sensitive plant and animal species. The SSHCP covers land within Sacramento County, including portions of the cities of Rancho Cordova, Elk Grove and Galt. The SSHCP is intended to consolidate environmental efforts to protect and enhance wetlands (primarily vernal pools) and upland habitats to provide ecologically viable conservation areas. The SSHCP will also minimize regulatory hurdles and streamline the development permit process for projects that are covered by and consistent with the plan. This Element contains a goal with supporting policies and actions related to protecting and preserving diverse wildlife and plant habitat, a policy about participation in an HCP, and a goal with supporting policies and actions related to preserving natural wetlands.

- **American River Parkway Plan.** The American River Parkway Plan was adopted by the City of Sacramento, Sacramento County and the State Legislature to manage the

Parkway's natural resources and promote recreation in a natural environment with minimal impacts. Sacramento County is currently updating the American River Parkway Plan. The ARPP Update is required because the context and usage of the three areas has changed considerably since the Plan was adopted. The City of Rancho Cordova is participating in the ARPP Update. This regional resource/amenity passes through the northern portion of Rancho Cordova. This Element contains a goal with supporting policies and actions related to protecting and preserving diverse wildlife and plant habitat.

### RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The Natural Resources Element is closely related to the Open Space, Parks, and Trails Element and Air Quality Element of the General Plan. The Open Space, Parks and Trails Element contains goals, policies and actions that establish the open space plan for the City. Together, the two elements represent the conservation element of the General Plan. The Air Quality Element contains policies about maximizing air quality benefits through the use of landscaping and trees, which are directly related to policies in the Natural Resources Element. Where appropriate, cross-references are provided to alert the reader to information in the other elements.

## ISSUES AND CONSIDERATIONS

### NATURAL RESOURCES SETTING

The Planning Area contains many varied natural resources, from habitats to creeks to water supplies. Each resource has an important function within the City and the region. The City does not contain forests, harbors, or fisheries. Therefore, the Natural Resources Element does not contain goals, policies or actions related to such resources.

## Plant and Animal Habitat

A variety of unique and valuable habitats are found within the Planning Area, including, but not limited to, oak and cottonwood woodlands, various grasslands, vernal pool areas, and open water and rivers. The habitats of the Planning Area contain numerous special status plant and animal species. A comprehensive list of the habitats and species in the Planning Area is provided in the Background Report that accompanies the General Plan.

Table NR-1 at the end of this Element includes a current list of special-status species that occur within the Rancho Cordova Planning Area.

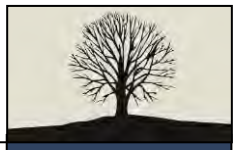
## Wetlands and Creeks

Wetlands and creeks in the Planning Area provide a variety of functions to the community. Creeks provide important ecosystem functions. The riparian habitat associated with creeks supports diverse and abundant plant and animal life and provides movement corridors for animals. Wetlands in the project area also have important ecological functions in that they support unique assemblages of specially adapted biota. In addition to their ecological functions, wetlands and creeks provide important water filtration and treatment, water supply, water storage, and recreational functions.

## Water Resources

The Planning Area contains several surface water and groundwater resources. Major surface water resources include the American River, the Cosumnes River, Morrison Creek, Laguna Creek, Elder Creek, Buffalo Creek, Blodgett Reservoir, and the Folsom South Canal. Groundwater is found in aquifer zones underneath the Planning Area.

Former Aerojet and Boeing operations associated with rocket testing resulted in groundwater contamination in portions of the Planning Area. The groundwater contamination spread in a plume that extends south and west within Rancho Cordova, as well as north under the American River into Carmichael. The Environmental Protection Agency (EPA) designated the Aerojet property as a Superfund site. A site is only designated as a Superfund site if it has been contaminated by hazardous waste and if the Environmental Protection Agency (EPA) has identified the site as a candidate for cleanup because it poses a risk to human health and/or the environment. In 2000, the EPA proposed a plan to clean up the plume of groundwater contamination to the west of the Aerojet property and to ensure continued, safe water supplies for area residents. Aerojet has



installed wells, pipelines, and treatment systems in the first phase of their effort to remove the groundwater contamination. Cleaning of the contamination officially began in 1979.

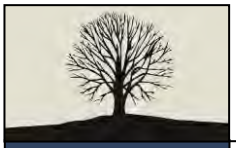
The current groundwater remediation is anticipated to be a long-term commitment, possibly operating more than 100 years. A significant volume of extracted and treated groundwater, possibly exceeding 30,000 acre-feet per year, is expected to be discharged to the American River. After flowing downstream to the Sacramento River and south to the Freeport pumping station, the water will be introduced into the County's municipal water system. The use of this water has been established through legal agreements between Aerojet, Sacramento County, and affected local water agencies.

Water is provided to the Rancho Cordova's Planning Area by three water purveyors including Sacramento County Water Agency (SCWA) Zone 40, Golden State Water Company (GSWC), and California-American Water Company (Cal-Am). The City's water supply is currently provided by a combination of ground and surface water resources. Future water supplies will be provided from a variety of sources, including: water from the Central Valley Project; appropriate water supplies; water transfer supplies; groundwater; recycled water; surface water from the American River; SMUD transfer water; and Aerojet replacement water.

A Water Supply Evaluation was prepared for the General Plan to identify water supply needs of the proposed General Plan under buildout of proposed land uses in the City's current boundaries as well as the Planning Area outside of the City under the State law providing for coordination between cities and counties and water planning activities of water purveyors and agencies. This work involved consultation with the current public and private water purveyors in the Planning Area, as well as requests for formal consultation regarding water supply availability by the City. Urban Water Management Plans (UWMP) for all water purveyors were obtained and used in the Water Supply Evaluation. The UWMPs identified the purveyor's existing and projected future water supplies and projected water demands through 2030 within each of their service areas.

## Soils/Aggregate Resources

The soils in the Planning Area are largely expansive clay soils, which tend to present challenges for construction. The Planning Area also contains approximately 10,275 acres of mine tailings, which are comprised of high-quality aggregate resources and possibly mineral resources such as gold. There are several existing mining operations within the Planning Area, some of which may expand in the future. These operations will play an important role in supplying materials for the build-out of the community.



# IX NATURAL RESOURCES ELEMENT

## ISSUES THIS ELEMENT ATTEMPTS TO SOLVE

The goals, policies, and actions in this Element attempt to solve the following issues, raised during discussion of natural resource conservation:

- Protecting wildlife and wetlands areas.

- Encouraging the City and various public agencies to work together to establish natural resource protection areas both inside and outside of the City.

- Ensuring compatibility and mutual benefit, to the maximum extent feasible, between mitigation preserves and urban development.

- Reducing the impacts of new development on the use of water and mineral resources.

- Ensuring the availability of aggregate resources to support construction within the City.

- Maintaining continuous and uninterrupted connections between mitigation preserves providing habitat corridors that allow species migration and minimize habitat and species isolation.

- Reducing solid waste production and promoting recycling activities that seek to reduce the amount of solid waste to state-mandated levels.

## GOALS, POLICIES, AND ACTIONS

The goals of this element are as follows and are listed subsequently with corresponding policies and actions. The term "feasible" as used in the Natural Resources Element of the City General Plan shall be defined as follows: "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

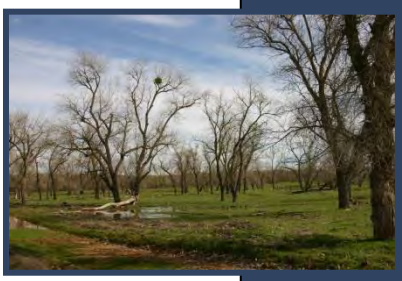
- **Goal NR1: Protect and preserve diverse wildlife and plant habitats, including habitat for special status species.**

- **Goal NR.2: Preserve the City's rich and diverse natural wetlands.**

- **Goal NR.3: Preserve and maintain creek corridors and wetland preserves with useable buffer zones throughout the new development areas as feasible.)**

- **Goal NR.4: Encourage the planting and preservation of high-quality trees throughout the City.**
- **Goal NR.5: Protect the quantity and quality of the City's water resources.**
- **Goal NR.6: Support the environmentally sensitive extraction of minerals and the subsequent reclamation of mined areas.**
- **Goal NR.7: Reduce per capita energy consumption.**
- **Goal NR.8: Promote waste reduction, reuse, recycling, and composting efforts.**

## GOAL NR.1 - PROTECT AND PRESERVE DIVERSE WILDLIFE AND PLANT HABITATS, INCLUDING HABITAT FOR SPECIAL STATUS SPECIES.



**Policy NR.1.1** - Protect rare, threatened, and endangered species and their habitats in accordance with State and federal law.

- **Action NR.1.1.1** - Incorporate habitat preserves and interconnected wildlife corridors in new development areas to allow for animal movement where feasible and as necessary for viability of protected species.
- **Action NR.1.1.2** – Review projects through the entitlement process and CEQA analysis to ensure that they comply with this policy if the site contains unique habitat, creeks, and/or wooded corridors.
- **Action NR.1.1.3** - As part of the consideration of development applications for individual Planning Areas containing habitats that support special-status plant and animal species that are planned to be preserved, the City may require that these preserved habitats have interconnections with other habitat areas where feasible and appropriate to promote the viability of the preserved habitat to support the special-status species identified. The determination of the design and size of the "interconnections" shall be made by the City, with the consideration of a recommendation from a qualified professional, after California Department of Fish and Game and U.S. Fish and Wildlife Service are provided with an opportunity to comment.

Cross reference: LU.3.4

- **Action NR.1.1.4** - Prior to the approval of any public or private development project in areas containing trees, the City shall require that a determinate survey be conducted during the nesting season (March 1 and August 31) to identify if active nesting by birds protected under the Migratory Bird Treaty Act (MBTA) is taking place. If all site disturbance is to occur outside this time, the actions described in this mitigation measure are not required. If nesting activity is observed, consultation with the City of Rancho Cordova Planning Department shall be conducted in order to determine the appropriate mitigation, if any, required to minimize impacts to nesting birds. No activity may occur within 100 feet of any nesting activity or as otherwise required following consultation with the California Department of Fish and Game.

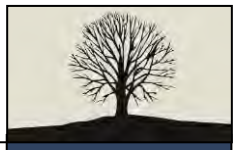
**Policy NR.1.2** - Conserve Swainson's hawk habitat consistent with State policies and Department of Fish and Game guidelines.

- **Action NR.1.2.1** – Establish a Swainson's Hawk Ordinance in coordination with the California Department of Fish and Game to establish the process of mitigating for the loss of Swainson's hawk foraging habitat based on habitat value lost to development. The ordinance will set forth a process where habitat lost to development will be mitigated through the permanent protection of equivalent or better existing habitat conditions (referred to hereafter as "mitigation lands"). The specific required mitigation ratios (habitat acreage lost versus mitigation lands) and any other provisions to mitigation process shall be established through technical studies as part of the development of the ordinance and will take into account value of habitat to be converted in relation to habitat value of the mitigation lands (e.g., relation to nesting sites), proximity of the mitigation lands to adjacent conditions affecting habitat (e.g., nearby land uses and already permanently protected lands), and other relevant factors. The ordinance will also establish standards ensuring that mitigation land will be adequately protected and managed in perpetuity (e.g., via conservation easement, deed restriction or other appropriate method), and setting forth the timing of the required provision of mitigation lands in relation with the timing of the loss of habitat in the City (as its boundaries may be changed through subsequent annexations), such that mitigation lands shall be provided no later than prior to ground disturbance.

**Policy NR.1.3** – Promote educational programs that inform the public about natural resources.

- **Action NR.1.3.1** – Coordinate with non-profit groups, educational institutions, and other agencies to provide environmental education programs that inform the public about the City's natural resources, existing preserve sites, and cohabitation with common urban wildlife populations.

**Policy NR.1.4** - Discourage the planting of invasive species.



- **Action NR.1.4.1** - Create an educational leaflet that identifies common invasive species and recommends the planting of non-invasive species.

- **Action NR.1.4.2** - The City shall adopt and maintain a Noxious Weed Ordinance. The Noxious Weed Ordinance shall include regulatory standards for construction activities that occur adjacent to natural areas to inhibit the establishment of noxious weeds through accidental seed import.

**Policy NR.1.5** - Ensure the protection of wildlife through the establishment of programs to control feral pet populations.

**Policy NR.1.6** – Participate in the development of a habitat conservation plan to address the unique biological resources in Rancho Cordova.

**Policy NR.1.7** – Prior to project approval, the City shall require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain listed plant and/or wildlife species based upon the City's biological resource mapping provided in the General Plan EIR or other technical materials.

- **Action NR.1.7.1** - For those areas in which special status species are found or likely to occur, the City shall require feasible mitigation of impacts to those species that ensure that the project does not contribute to the decline of the affected species such that their decline would impact the viability of the species. Feasible mitigation shall be determined by the City after the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) are provided an opportunity to comment, and may emphasize a multi-species approach. This may include development or participation in a habitat conservation plan.

**Policy NR.1.8** - The City shall encourage creation of habitat preserves that are immediately adjacent to each other in order to provide interconnected open space areas for animal movement.

**Policy NR.1.9** - The City shall require that impacts to riparian habitats be mitigated at a no net loss of existing function and value based on field survey and analysis of the riparian habitat to be impacted. No net loss may be accomplished by avoidance of the habitat, restoration of existing habitat, or creation of new habitat, or through some combination of the above.

**Policy NR.1.10** - The placement of new roadways within habitat preserves shall be discouraged, but is not prohibited. This Policy shall not apply to roadways shown in the Circulation Element or needed to meet goals or policies of the Circulation Element.

**Policy NR.1.11** - In such cases where a new roadway crosses a habitat preserve or separates two adjacent preserves, the roadway shall include design features, where feasible and appropriate, to allow for the movement of wildlife across or beneath the road without causing a hazard for vehicles, bicycles and pedestrians on the roadway.

## GOAL NR.2 - PRESERVE THE CITY'S RICH AND DIVERSE NATURAL WETLANDS.

**Policy NR.2.1** – Require mitigation that provides for "no net loss" of wetlands consistent with current State and federal policies.

- **Action NR.2.1.1** - During the environmental review process, evaluate feasible on-site alternatives that will reduce impacts to wetland resources and effectively preserve these resources.

**Policy NR.2.2** - Ensure that direct and indirect effects to wetland habitats are mitigated to the extent feasible by environmentally sensitive project siting and design or other measures.

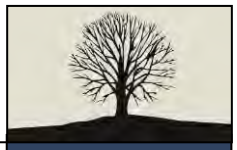
**Policy NR.2.3** – Work with private and non-profit conservation organizations to ensure competitive pricing for mitigation bank credits by allowing government agencies, non-profit organizations, and private landowners to establish vernal pool preserves, designate mitigation areas, create and restore vernal pools, and sell credits to developers for off-site mitigation.

**Policy NR.2.4** - Educate the public on the importance and benefit of wetlands areas.

- **Action NR.2.4.1** - Develop trails and associated educational facilities (e.g., information kiosks, signage) around wetland and vernal pool preserves where possible while maintaining the integrity of sensitive natural resources.

- **Action NR.2.4.2** – Consider constructing low impact trails interior to preserves, such as elevated board walkways, in coordination with the U.S. Fish and Wildlife Service and U.S. Army Corps of Engineers.

**Policy NR.2.5** - The City shall require that drainage improvements that discharge into areas of wetlands to be preserved are, to the maximum extent feasible, designed to mimic the undeveloped surface water flow conditions of the area in terms of seasonality, volume, and flow velocity.



## GOAL NR.3 - PRESERVE AND MAINTAIN CREEK CORRIDORS AND WETLAND PRESERVES WITH USEABLE BUFFER ZONES THROUGHOUT THE NEW DEVELOPMENT AREAS AS FEASIBLE.

**Policy NR.3.1** - Coordinate with property owners and local interest groups, such as the Sacramento Urban Creeks Council, to restore, enhance, and preserve creeks in Rancho Cordova.

**Policy NR.3.2** - In general, the City will encourage the preservation of existing location, topography, and meandering alignment of natural creeks. The modification, re-creation and realignment of creek corridors shall recreate the character of the natural creek corridor to the extent feasible, appropriate and consistent with other City policies. Channelization and the use of concrete within creek corridors shall be discouraged, but is not prohibited.

- **Action NR.3.2.1** – Develop guidelines for channel creation or modification that will ensure channel meander, naturalized side slope, and varied channel bottom elevation are considered in design.

- **Action NR.3.2.2** – Adopt and implement improvement standards for soft bottom channels.

**Policy NR.3.3** – Encourage the creation of secondary flood control channels where the existing channel supports extensive riparian vegetation.

- **Action NR 3.3.1 –** Work with affected local, state, and federal agencies, including SACOG, the California Department of Water Resources, Delta Keepers, and the U.S. Army Corps of Engineers, to determine when natural creek corridors can and should accommodate storm flows or if separate storm water conveyance structures are necessary.

Cross reference: OSPT 2.3

**Policy NR.3.4** – Encourage projects that contain wetland preserves or creeks, or are located adjacent to wetland preserves or creeks, to be designed for visibility and, as appropriate, access.

- **Action NR.3.4.1** - Establish performance standards for natural resource preserves that accomplish the following:

  – Provide sufficient width for a mowed firebreak (where necessary), adjacent passive recreation uses, and access for channel maintenance and flood control.

– Offer sufficient width in and/or adjacent to preserves to allow for existing and created wildlife habitat, species sensitive to human disturbance, vegetative filtration for water quality, corridor for wildlife habitat linkage, protection from runoff, and other impacts of urban uses adjacent to the corridor.

– Allow for sufficient width adjacent to natural resource preserves to allow for trails and greenbelts.

– Prohibit the placement of water quality treatment structures designed to meet pollutant discharge requirements within mitigation preserves.

- **Action NR.3.4.2** – Establish standards that allow public access in the floodplain and buffers along creek corridors and preserves. Mitigation measures shall be incorporated into environmental documents and conditions of approval that require open-view fencing adjacent to preserves.

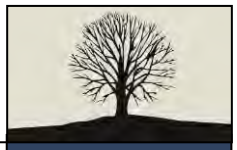
- **Action NR.3.4.3 –** Establish standards and/or guidelines for development adjoining wetland preserves or creeks to maximize visibility by designing the land plan with public streets on at least one side of the corridor or preserve with vertical curbs, gutters, footpath(s), street lighting, and post and cable barriers to prevent unauthorized vehicular entry into creek corridors and preserves.

## GOAL NR.4 – ENCOURAGE THE PLANTING AND PRESERVATION OF HIGH-QUALITY TREES THROUGHOUT THE CITY.

**Policy NR.4.1** - Conserve native oak and landmark tree resources for their historic, economic, aesthetic, educational, and environmental value.

- **Action NR.4.1.1 -** Implement the City's Tree Preservation and Protection Ordinance (and update as necessary) to establish minimum requirements for preserving native trees and landmark trees in the City, including a definition of the size, species, and age requirements of landmark, oak, and other trees to be protected and/or replaced.

- **Action NR.4.1.2** - Where feasible, require underground utility lines that are in close proximity to oaks and other landmark trees to be designed and installed to minimize impacts to trees. Work with the utility provider(s) to coordinate transmission line location and other potential impacts associated with the undergrounding of the utilities.



- **Action NR.4.1.3** - Establish development guidelines that require all oak habitat to be avoided to the maximum extent feasible. When avoidance is not possible, require mitigation efforts that result in preservation of in-kind habitat in the Planning Area.

**Policy NR.4.2 -** Improve overall landscaping quality and sustainability in all areas visible to the public.

- **Action NR.4.2.1** - Create development guidelines to establish minimum planting standards and require appropriate tree species and planting densities within newly landscaped areas that are visible to or shared by the public. An adopted Tree List should be used as a guideline for all tree plantings within the City.

Cross reference: UD.2.6.2

- **Action NR.4.2.2** - Create development guidelines that address landscaping standards and that require appropriate tree species and densities in buffer areas. The guidelines should also ensure that medians will include native plantings and trees, and will be wide enough to support the long-term viability of the plantings.

Cross reference: UD.2.6.2

- **Action NR.4.2.3** - Provide leaflets and planting guides that promote the use of drought-tolerant native vegetation in home landscaping.

- **Action NR.4.2.4** – Discourage the use of invasive non-native species.

- **Action NR.4.2.5** – Establish a mistletoe abatement and remediation program.

- **Action NR.4.2.6** - Establish guidelines to require planting of trees to reduce "heat island" effects, in order to reduce the need for air conditioning and thus conserve energy.

**Policy NR.4.3** - Promote trees as economic and environmental resources for the use, education, and enjoyment of current and future generations.

- **Action NR.4.3.1** - Achieve "Tree City USA" status. This will require the City to continue to implement the City's Tree Preservation and Protection Ordinance (and update as necessary), appoint a board, department or commission to advise the city on tree issues, spend two dollars per capita on community forestry activities, and hold an Arbor Day celebration.

Cross reference: AQ.2.4

- **Action NR.4.3.2** - Designate local funds to educate the public on tree planting and preservation.

- **Action NR.4.3.3** - Coordinate with SMUD to offer programs or other resources to provide property owners with information on proper tree selection, proper location to reduce heat transfer effects, planting and maintenance.

- **Action NR.4.3.4** – Actively participate in the Sacramento Tree Foundation Greenprint Program.

**Policy NR.4.4** - Prior to the approval of any public or private development project in areas identified or assumed to contain trees, the City shall require that a determinate survey of trees species and size be performed. If any native oaks or other native trees six inches or more in diameter at breast height (dbh), multitrunk native oaks or native trees of 10 inches or greater dbh, or non-native trees of 18 inches or greater dbh that have been determined by a certified arborist to be in good health are found to occur, such trees shall be avoided if feasible. If such trees cannot be avoided, the project applicant shall do one of the following:

- All such trees shall be replaced at an inch-for-inch ratio. A replacement tree planting plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the City of Rancho Cordova for approval prior to removal of trees; or,

- The project applicant shall submit a mitigation plan that provides for complete mitigation of the removal of such trees in coordination with the City of Rancho Cordova. The mitigation plan shall be subject to the approval of the City.

- If the City of Ranch Cordova adopts a tree preservation ordinance at any time in the future, any future development activities shall be subject to that ordinance instead.

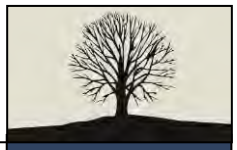
## GOAL NR.5 - PROTECT THE QUANTITY AND QUALITY OF THE CITY'S WATER RESOURCES.

**Policy NR.5.1** - Promote water conservation within existing and future urban uses.

- **Action NR.5.1.1** - Install water-conserving landscaping and irrigation on City-owned and operated facilities.

- **Action NR.5.1.2** - Require development project approvals to include a finding that all feasible and cost-effective options for conservation and water reuse are incorporated into project design.

- **Action NR.5.1.3** - Establish a program that requires per capita water consumption to be reduced by at least 20 percent by 2030 from 2006 baseline conditions consistent with State law. The program shall include the following measures:



  - Restrict water usage through metering or establishing designated watering days for the City's residences and businesses.

  - Promote water conservation efforts through education.

  - Implement standards that require low-flow appliances and fixtures in all new development.

  - Work with water providers and water conservation agencies to create an incentive program that encourages retrofitting existing development with low-flow water fixtures.

  - Require new development and landscaped public areas to utilize state-of-the-art irrigation systems that reduce water consumption (e.g., gray-water systems).

  - Encourage drought-tolerant and native vegetation.

- **Action NR.5.1.4** – Require water purveyors to include a provision for water supply monitoring and reporting in the franchise agreements.

**Policy NR.5.2** - Encourage the use of treated wastewater to irrigate parks, golf courses, and landscaping.

- **Action NR.5.2.1** – Establish a Large-Scale Recycled Water Program and Citywide Recycled Water Distribution System Ordinance.

- **Action NR.5.2.2** – Coordinate with the City's water purveyors and the SRCSD to establish a connected "purple pipe" system throughout the City's new development areas that uses recycled water.

**Policy NR.5.3** - Protect surface and ground water from major sources of pollution, including hazardous materials contamination and urban runoff.

- **Action NR.5.3.1** - Restrict hazardous materials storage in the 100-year and 200-year floodplain to prevent surface water contamination.

Cross reference: S.5.3

Cross reference: S.5.1

- **Action NR.5.3.2** - Educate the community on laws governing the proper handling of hazardous materials, especially those laws which pertain to discharging materials into creeks.

- **Action NR.5.3.3** - Install appropriate signage to deter the discharge of hazardous materials into storm drains.

- **Action NR.5.3.4** - Future land uses that are anticipated to utilize hazardous materials or waste shall be required to provide adequate containment facilities to ensure that surface water and groundwater resources are protected from accidental releases. This shall include double-containment, levees to contain spills, and monitoring wells for underground storage tanks, as required by local, state, and federal standards. Future land uses that include on-site storage of hazardous materials and waste comply with all applicable local, state and federal regulations, including those regulating the use, storage, handling and disposal of hazardous materials.


**Policy NR.5.4** - Prevent contamination of the groundwater table and surface water, and remedy existing contamination to the extent practicable.

- **Action NR.5.4.1** – Provide information on pollution prevention, disposal of hazardous waste and chemicals, liability and clean-up on the City's website and in educational materials and brochures.

- **Action NR.5.4.2** - Require clean-up of contaminated ground and surface water by current and/or past owners or polluters.

- **Action NR.5.4.3** - Encourage pollutant cleansing companies to use the latest technologies available in order to expedite the cleansing process and do the least harm to the environment.

**Policy NR.5.5** – Minimize erosion to stream channels resulting from new development in urban areas consistent with State law.

- **Action NR.5.5.1** - Require development projects to contain urban runoff control strategies and requirements that are consistent with Master Drainage Plans and the City's urban runoff management program.

Cross reference: 5.2.3.1

- **Action NR.5.5.2** - Require development within newly urbanizing areas to incorporate runoff control measures into their site design or to participate in an area-wide

runoff control management effort consistent with standards developed by the Public Works Department.

- **Action NR.5.5.3** - Encourage new development to incorporate features such as grassy swales, multi-use retention or detention basins, and integrated drainage systems to enhance water quality. Work with the Cordova Recreation and Park District to establish standards for integrating retention/detention basins into park sites and create examples of desirable and innovative natural drainage features.

- **Action NR.5.5.4** - Require the use of best management practices to protect receiving waters from the adverse effects of construction activities, sediment and urban runoff consistent with current state law.

**Policy NR.5.6** - Incorporate Storm Water, Urban Runoff, and Wetland Mosquito Management Guidelines and Best Management Practices into the design of water retention structures, drainage ditches, swales, and the construction of mitigated wetlands in order to reduce the potential for mosquito-borne disease transmission.

**Policy NR.5.7** - Continue to cooperate and participate with the County, other cities, and the Regional Water Quality Control Board regarding compliance with the joint National Pollutant Discharge Elimination System Permit (NPDES No. CAS082597) or any subsequent permit and support water quality improvement projects in order to maintain compliance with regional, state and federal water quality requirements.

**Policy NR.5.8** - The City shall require groundwater impact evaluations be conducted for the Grant Line West, Westborough, Aerojet, Glenborough, Mather and Jackson Planning Areas to determine whether urbanization of these areas would adversely impact groundwater remediation activities associated with Mather and Aerojet prior to the approval of large-scale development. Should an adverse impact be determined, a mitigation program shall be developed in consultation with applicable local, state, and federal agencies to ensure remediation activities are not impacted. This may include the provision of land areas for groundwater remediation facilities, installation/extension of necessary infrastructure, or other appropriate measures.

## GOAL NR.6 - SUPPORT THE ENVIRONMENTALLY SENSITIVE EXTRACTION OF MINERALS AND THE SUBSEQUENT RECLAMATION OF MINED AREAS.

**Policy NR.6.1** – Ensure that the environmental effects of mining and reclamation on aquifers, streams, scenic views, and surrounding residential uses are prevented or minimized.

- **Action NR.6.1.1** – Regulate surface mining operations as required by California's Surface Mining and Reclamation Act of 1975 ("SMARA"), Public Resources Code Section 2207 (relating to annual reporting requirements), and State Mining and Geology Board regulations for surface mining and reclamation practice.

- **Action NR.6.1.2** – Coordinate mining operations and urban development to minimize conflicts between residents and mining, particularly where mining is required before urbanization.

- **Action NR.6.1.3** – Require inactive mined lands to be reclaimed to a usable condition that is readily adaptable to the future, anticipated land uses.

**Policy NR.6.2** – Eliminate residual hazards to the public health and safety.

- **Action NR.6.2.1** – Establish and require minimum setbacks of future and reauthorized surface mining from adjoining residential land uses.

- **Action NR.6.2.2** - Prohibit the use of cyanide-leaching systems for gold extraction.

**Policy NR.6.3** - While mining activities are anticipated to be phased out within the City, the City recognizes the right of these uses to continue and will require setbacks, buffers, screening, and other appropriate measures to allow for the continued operation of mining activities.

## GOAL NR.7 - REDUCE PER CAPITA ENERGY CONSUMPTION.

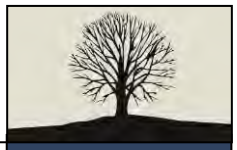
Cross reference: H.6.1

**Policy NR.7.1** - Increase energy conservation Citywide.

- **Action NR.7.1.1** - Develop educational programs to increase energy conservation at the household and business levels.

- **Action NR.7.1.2** - Develop a comprehensive program to conserve energy resources at City-operated facilities.

**Policy NR.7.2** - Promote the development and use of advanced energy technology and building materials in Rancho Cordova.



Cross reference: LU.2.7

**Policy NR.7.3** - Encourage the development of energy efficient buildings and subdivisions.

- **Action NR 7.3.1** - Offer incentives (e.g., reduced fees, expedited entitlement processing, density bonus) for plans/projects that exceed Title 24 energy efficiency requirements by ten percent.

**Policy NR.7.4** - Promote energy rebate programs offered by local energy providers (e.g., SMUD, PG&E) as a way to bring energy efficiency into older neighborhoods and developments.

- **Action NR.7.4.1** - Consider the following items as ways to implement this policy:
  - Fund a program that offers incentives for adding energy efficient systems into existing developments;
  - Work with local utility providers to make the public aware of energy rebate programs; and
  - Work with community organizations, such as SMUD, to encourage the inclusion of energy efficient systems in remodels and retrofits of existing development.

## GOAL NR.8 - PROMOTE WASTE REDUCTION, REUSE, RECYCLING, AND COMPOSTING EFFORTS.

**Policy NR.8.1** - Support recycling efforts by developing a set of programs to educate residents on recycling and provide recycling services.

- **Action NR.8.1.1 -** Continue providing curbside recycling and green waste service to all single-family and duplex residences in Rancho Cordova.
- **Action NR.8.1.2** - Create and facilitate a series of educational workshops for the public and businesses on composting and recycling. Provide at least one program to increase recycling by occupants of multi-family housing.
- **Action NR.8.1.3** - Encourage all office, commercial, and multi-family complexes to provide recycling bins and collection service for paper, plastic, glass, and metal.
- **Action NR.8.1.4** - Provide recycling centers at City facilities (e.g., City Hall, libraries) that are available to the public free-of-charge.

- **Action NR.8.1.5** - Provide locations for household hazardous wastes to be recycled.

- **Action NR.8.1.6** – Remove impediments to successful recycling.

**Policy NR.8.2** - Encourage all companies that do business in Rancho Cordova to recycle and reuse construction scraps, demolition materials, concrete, industrial waste, and green waste.

- **Action NR.8.2.1** - Encourage the school districts within the Planning Area to support recycling at school sites by placing easily accessible recycling bins, providing educational programs on recycling, and using recycled products.

Cross reference: N.1.5

**Policy NR.8.3** - Promote the use of rubberized asphalt on all public roadways in an effort to recycle old tires and reduce noise impacts. Implementation of this policy will help to preserve aggregate resources.

**Policy NR.8.4 -** Encourage the use of recycled materials and source reduction (also known as waste prevention) by governmental agencies and local businesses.

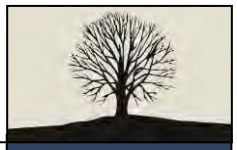
- **Action NR.8.4.1** - Ensure that at least 50 percent of the City's office supply purchases are comprised of recycled or reusable products.

**Policy NR.8.5** - Meet state mandates for solid waste reduction and recycling. Increase recycling efforts beyond those required by state law through supporting businesses that buy and sell re-used materials, such as materials exchange centers.

- **Action NR.8.5.1** - Implement the State's source reduction and recycling element (required by the California Integrated Waste Management Act) and the household hazardous waste element (required by PRC 41500-41510).

**Policy NR.8.6** - Encourage the use of recycled-content products and construction materials.

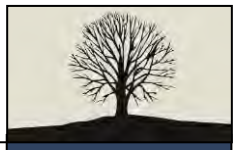
**Policy NR.8.7** - Maintain contact with Sacramento County and Allied Waste (or its successor) regarding the capacity projections of Kiefer Landfill and Lockwood Landfill to ensure an adequate capacity in their disposal facilities for the long-term disposal needs of Rancho Cordova.



## TABLE NR-1
## SPECIAL STATUS SPECIES OCCURRING WITHIN THE RANCHO CORDOVA PLANNING AREA

| Scientific Name | Common Name | State Listing Status | Federal Listing Status | Other Status |
|---|---|---|---|---|
| **Plant Species** | | | | |
| Downingia pusilla | Dwarf downingia | None | None | CNPS:2<br>R-E-D: 1-2-1 |
| Gratiola heterosepala | Boggs Lake hedge-hyssop | Endangered | None | CNPS: 1B<br>R-E-D: 1-2-2<br>USFWS: SC |
| Juncus leiospermus | Ahart's dwarf rush | None | None | CNPS: 1B<br>R-E-D: 3-2-3<br>USFWS: SC |
| Legenere limosa | Legenere | None | None | CNPS: 1B<br>R-E-D: 2-3-3<br>USFWS: SC |
| Narvarretia myersii ssp. myersi | Pincushion navarretia | None | None | CNPS: 1B<br>R-E-D: 3-3-3<br>USFWS: SC |
| Orcuttia tenuis | Slender orcutt grass | Endangered | Threatened | CNPS: 1B<br>R-E-D: 2-3-3 |
| Orcuttia viscida | Sacramento orcutt grass | Endangered | Endangered | CNPS: 1B<br>R-E-D: 3-3-3 |
| Sagittaria sanfordii | Sanford's arrowhead | None | None | CNPS: 1B<br>R-E-D: 2-2-3<br>USFWS: SC |
| **Amphibian Species** | | | | |
| Spea (Scaphiopus) hammondii | Western spadefoot | None | None | CDFG: CSC<br>USFWS: SC |
| **Bird Species** | | | | |
| Accipiter cooperii | Cooper's hawk | None | None | CDFG: CSC |
| Agelaius tricolor | Tricolored blackbird | None | None | CDFG: CSC<br>USFWS: SC |
| Ardea alba | Great egret | None | None | |

| Scientific Name | Common Name | State Listing Status | Federal Listing Status | Other Status |
|---|---|---|---|---|
| Ardea herodias | Great blue heron | None | None | |
| Asio flammeus (nesting) | Short-eared Owl | None | None | CDFG: CSC |
| Athene cunicularia (burrow sites) | Burrowing owl | None | None | CDFG: CSC<br>USFWS: SC |
| Buteo swainsoni | Swainson's hawk | Threatened | None | |
| Circus cyaneus (nesting) | Northern harrier | None | None | CDFG: CSC |
| Elanus leucurus | White-tailed kite | None | None | CDFG: fully protected |
| Eremophila alpestris actia | California horned lark | None | None | CDFG: CSC |
| Icteria virens (nesting) | Yellow-breasted chat | None | None | CDFG: CSC |
| Lanius ludovicianus (nesting) | Loggerhead shrike | None | None | CDFG: CSC<br>USFWS: SC |
| Plegadis chihi (rookery site) | White-faced ibis | None | None | CDFG: CSC<br>USFWS: SC |
| Riparia riparia | Bank swallow | Threatened | None | |
| **Invertebrate Species** | | | | |
| Branchinecta lynchi | Vernal pool fairy shrimp | None | Threatened | |
| Branchinecta mesovallensis | Midvalley fairy shrimp | None | None | USFWS: SC |
| Desmocerus californicus dimorphus | Valley elderberry longhorn beetle | None | Threatened | |
| Lepidurus packardi | Vernal pool tadpole shrimp | None | Endangered | |
| Linderiella occidentalis | California linderiella (fairy shrimp) | None | Endangered | USFWS: SC |
| **Mammal Species** | | | | |
| Antrozous pallidus | Pallid bat | None | None | CDFG: CSC |
| Bassariscus astutus | Ringtail | None | None | CDFG: CFP |



| Scientific Name | Common Name | State Listing Status | Federal Listing Status | Other Status |
|---|---|---|---|---|
| Myotis ciliolabrum | Western small-footed myotis | None | None | USFWS: SC |
| Myotis evotis | Long-eared myotis | None | None | USFWS: SC |
| Myotis thysanodes | Fringed myotis | None | None | USFWS: SC |
| Myotis volans | Long-legged myotis | None | None | USFWS: SC |
| Myotis yumaensis | Yuma myotis | None | None | USFWS: SC |
| Taxidea taxus | American badger | None | None | CDFG: CSC |
| **Reptile Species** | | | | |
| Emys (=Clemmys) marmorata marmorata | North-western pond turtle | None | None | CDFG: CSC<br>USFWS: SC |

**Key to Ranks and Lists**

| | |
|---|---|
| CDFG: CSC | California Species of Special Concern |
| CDFG: CFP | California Fully Protected |
| USFWS: SC | USFWS Species of Concern |

**CNPS Lists:**

List 1A: Plants Presumed Extinct in California
List 1B: Plants Rare, Threatened or Endangered in California or Elsewhere
List 2: Plants Rare, Threatened or Endangered in California, But More Common Elsewhere
List 3: Plants About Which We Need More Information – A Review List
List 4: Plants of Limited Distribution – A Watch List

| Scientific Name | Common Name | State Listing Status | Federal Listing Status | Other Status |
|---|---|---|---|---|
| **CNPS R-E-D Codes:** | | | | |

R Rarity

1 Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time

2 Distributed in a limited number of occurrences, occasionally more if each occurrence is small

3 Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported

E Endangerment

1 Not Endangered

2 Endangered in a portion of its range

3 Endangered throughout its range

D Distribution

1 More or less widespread outside California

2 Rare outside California

3 Endemic to California

*Source: Ecosystem Sciences, March 2005 and California Department of Fish and Game (CDFG). 2006. California Natural Diversity Database. Wildlife & Habitat Data Analysis Branch, Department of Fish and Game (Version: 09 December 2005)*

# Appendix B — Regionally Occurring Listed and Special-Status Species

**Regulatory Status Legend**

| | | |
|---|---|---|
| FE = Federal endangered<br>FT = Federal threatened<br>FC = Federal candidate<br>PT = Federal proposed threatened<br>FPD = Federal proposed for delisting<br>FD = Federal delisted<br>FSC = Federal Species of Concern | CE = California state endangered<br>CT = California state threatened<br>CFP = California fully protected<br>CSC = California Species of Special Concern<br>CSA = California Special Animals List<br>CR = California state rare | 1A = plants presumed extinct in California<br>1B = plants rare, threatened, or endangered in California and elsewhere<br>2 = plants rare, threatened, or endangered in California, but common elsewhere<br>3 = plants about which we need more information<br>4 = plants of limited distribution |

**Table 1 — Legally Protected Species**

| Special-Status Species | Regulatory Status | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| ***Plants*** | | | | |
| Boggs Lake hedge-hyssop<br>*Gratiola heterosepala* | --; CE; SLC; 1B | Annual herb found in shallow ponds and margins of vernal pools from 30 to 7800 feet above sea level. | April – June | **None**; Though, the vernal pools within the Study Area provide habitat for this species, this species was not observed during the June 12 and 13, 2017, rare plant survey.<br><br>There are five CNDDB occurrences within five miles of the Study Area. |
| El Dorado bedstraw<br>*Galium californicum* ssp. *sierrae* | FE; --; --; 1B | Annual herb found in open pine forests and oak woodlands on gabbroic soils from 300 to 2000 feet above sea level. | May – June | **None**; the Study Area does not provide habitat for this species. |
| Ione manzanita<br>*Arctostaphylos myrtifolia* | FT; --; --; 1B | Perennial evergreen shrub found in chaparral and open woodlands on Ione soils from 200 to 2000 feet. | November – March | **None**; the Study Area does not provide habitat for this species. |
| Ione buckwheat<br>*Eriogonum apricum* var. *apricum* | FE; CE; --; 1B | Perennial herb found in chaparral on Ione soil from 200 to 500 feet. | July – October | **None**; the Study Area does not provide habitat for this species. |
| Irish Hill buckwheat<br>*Eriogonum apricum* var. *prostratum* | FE; CE; --; 1B | Perennial herb found in chaparral on Ione soil from 300 to 400 feet above sea level. | June – July | **None**; the Study Area does not provide habitat for this species. |
| Layne's ragwort<br>*Packera layneae* | FT; --; --; 1B | Perennial herb found in chaparral and oak and pine woodlands on rocky serpentine or gabbroic soil from 600 to 3500 feet. | April – August | **None**; the Study Area does not provide habitat for this species. |
| Pine Hill ceanothus<br>*Ceanothus roderickii* | FE; --; --; 1B | Perennial evergreen shrub found in chaparral and oak and pine woodlands on serpentine or gabbroic soils from 800 to 3500 feet. | April – June | **None**; the Study Area does not provide habitat for this species. |
| Pine Hill flannelbush<br>*Fremontodendron decumbens* | FE; --; --; 1B | Perennial evergreen shrub found in chaparral and oak and pine woodlands on rocky gabbroic or serpintine soils from 1400 to 2500 feet above sea level. | April – July | **None**; the Study Area does not provide habitat for this species. |
| Sacramento Orcutt grass<br>*Orcuttia viscida* | FE; CE; SLC; 1B | Annual herb found in vernal pools from 100 to 350 feet above sea level. It is known only in Sacramento County. | April – July | **None**; Though, the vernal pools within the Study Area provide habitat for this species, this species was not observed during the June 24, 2009, and June 12 and 13, 2017, rare plant surveys.<br><br>There are eight CNDDB occurrences within five miles of the Study Area. |
| Slender Orcutt grass<br>*Orcuttia tenuis* | FT; CE; SLC; 1B | Annual herb found in vernal pools and the margins of stock ponds from 100 to 5700 feet above sea level. | May – July | **None**; Though, the vernal pools within the Study Area provide habitat for this species, this species was not observed during the June 24, 2009, and June 12 and 13, 2017, rare plant surveys.<br><br>There is one CNDDB occurrence within five miles of the Study Area. |
| ***Invertebrates*** | | | | |
| Conservancy fairy shrimp<br>*Branchinecta conservatio* | FE; --; --; -- | Crustacean found in vernal pools from 10 to 500 feet above sea level. This species if found in Butte, Tehama, Glenn, Yolo, Solano, Stanislaus, Merced, and Ventura counties. | Wet season | **None**; the project site is outside of the known range for this species. |
| Valley elderberry longhorn beetle<br>*Desmocerus californicus dimorphus* | FT; --; SLC; -- | Insect found in riparian areas of chaparral and oak woodland up to 500 feet above sea level. Species leaves bore holes on the trunk of its host plant, blue elderberry shrub. | Year-round | **None**; the Study Area does not provide habitat for this species.<br><br>There are five CNDDB occurrences within 5 miles of the Study Area. |
| Vernal pool fairy shrimp<br>*Branchinecta lynchi* | FT; --; SLC; -- | Crustacean found in vernal pools and similar ephemeral wetlands. | Wet season | **High**; the vernal pools and other wetlands within the Study Area provide habitat for this species.<br><br>There are 22 CNDDB occurrences within five miles of the Study Area. |
| Vernal pool tadpole shrimp<br>*Lepidurus packardi* | FE; --; SLC; -- | Crustacean found in vernal pools and similar natural and artificial seasonally ponded waterbodies. | Wet season | **Present**; this species was observed by a Foothill biologist during a 2004 reconnaissance survey.<br><br>There are 43 CNDDB occurrences within five miles of the Study Area. |
| ***Fish*** | | | | |
| Central Valley steelhead<br>*Oncorhynchus mykiss irideus* | FT; --; CSC; -- | Salmonid found in the ocean, rivers, creeks, and lakes. They can survive for extended periods in waters up to 70° F. | Year-round | **None**; the Study Area does not provide habitat for this species. |
| Delta smelt<br>*Hypomesus transpacificus* | FT; CE; --; -- | Found in bays, rivers, and sloughs. | Year-round | **None**; the Study Area does not provide habitat for this species. |

| Special-Status Species | Regulatory Status | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| ***Amphibians/ Reptiles*** | | | | |
| California red-legged frog<br>*Rana draytonii* | FT; CSC; --; -- | Found in or near quiet, permanent waterbodies. Individuals may range up to a mile from water along riparian corridors. | Summer | **None**; the Study Area is not within the known extant range of this species. |
| California tiger salamander<br>*Ambystoma californiense* | FT; CT; SLC; -- | Found in grasslands and pine and oak woodlands. Breeds in ponded water. Spends summers in small mammal burrows. Found in the Central Valley from Kern to Yolo County. | November – February | **None**; though the grassland, burrows, and detention basin outfall of the Study Area provide habitat for this species, the Study Area is outside of the know range for this species and this species has not been observed during previous focused surveys. |
| Giant garter snake<br>*Thamnophis gigas* | FT; CT; SLC; -- | Agricultural wetlands, irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and associated uplands. | Spring – Fall | **None**; The Study Area does not provide habitat for this species. |
| ***Birds*** | | | | |
| Western snowy plover<br>*Charadrius alexandrinus nivosus* | FT; CSC; --; -- | Nests on beaches. | Spring – Fall (Nesting) | **None**; the Study Area does not provide nesting habitat for this species. |
| Bank swallow<br>*Riparia* | --; CT; --; -- | Nests in large colonies, excavating nest burrows in steep riverbank cliffs, gravel pits, and highway cuts. | Spring – Fall (Nesting) | **None**; the Study Area does not provide habitat for this species. |
| White-tailed kite<br>*Elanus leucurus* | --; CFP; SLC; -- | Found in savanna, open woodland, marshes, and fields. Nests in isolated trees or woodlands areas with open foraging habitat. | Year-round | **Present**; this species was observed foraging within the Study Area during the June 12, 2017, rare plant survey. |
| California black rail<br>*Laterallus jamaicensis* | BCC; CT; --; -- | Found in coastal and freshwater marshes. | Year-round | **None**; the Study Area does not provide habitat for this species. |
| Bald eagle<br>*Haliaeetus leucocephalus* | BCC; CE; --; -- | Nests in mountainous habitats near permanent waterbodies. Winters near permanent waterbodies. | Year-round (Nesting and Wintering) | **None**; the Study Area does not provide habitat for this species. |

Table 1 includes federal threatened or endangered species and eagles, and State threatened, endangered, or fully protected species.

**Table 2 — Species Subject to CEQA Review**

| Special-Status Species | Regulatory Status | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| ***Plants*** | | | | |
| Ahart's dwarf rush<br>*Juncus leiospermus* var. *ahartii* | --; --; SLC; 1B | Annual herb found in vernal pool margins and grasslands from 100 to 330 feet above sea level. | March – May | **Low**; the vernal pool margins within the Study Area provide habitat for this species, though this species was not observed during previous focused botanical surveys.<br><br>There are two CNDDB occurrences within five miles of the Study Area. |
| Dwarf downingia<br>*Downingia pusilla* | --; --; SLC; 2 | Annual herb found in vernal pools and grasslands from sea level to 1500 feet above sea level. | March – May | **Low**; the vernal pools and grasslands within the Study Area provide habitat for this species. |
| El Dorado mule ears<br>*Wyethia reticulata* | --; --; --; 1B | Perennial herb found in chaparral, pine and oak woodlands, and coniferous forests on clay or gabbroic soil from 1000 to 1500 feet above sea level. | April – August | **None**; the Study Area does not provide habitat for this species. |
| Legenere<br>*Legenere limosa* | --; --; SLC; 1B | Annual herb found in vernal pools from 10 to 3000 feet above sea level. | April – June | **None;** Though the vernal pools within the Study Area provide habitat for this species, this species was not observed during the June 12 and 13, 2017, rare plant survey.<br><br>There are 13 CNDDB occurrences within five miles of the Study Area. |
| Pincushion navarretia<br>*Navarretia myersii* ssp. *myersii* | --; --; --; 1B | Annual herb found in vernal pools from 60 to 1000 feet above sea level. | April – May | **Low**; the vernal pools within the Study Area provide habitat for this species. |
| Parry's horkelia<br>*Horkelia parryi* | --; --; --; 1B | Perennial herb found in chaparral and pine and oak woodlands from 250 to 3000 feet above sea level. | April – September | **None**; the Study Area does not provide habitat for this species. |
| Red Hills soaproot<br>*Chlorogalum grandiflorum* | --; --; --; 1B | Perennial herb found in chaparral, pine and oak woodlands, and coniferous forests from 800 to 5500 feet above sea level. | May – June | **None**; the Study Area does not provide habitat for this species. |
| Sanford's arrowhead<br>*Sagittaria sanfordii* | --; --; SLC; 1B | Perennial emergent herb found in marshes and swamps from 0 to 2,200 feet above sea level. | May - October | **None**; the Study Area does not provide habitat for this species. |
| Tuolumne button-celery<br>*Eryngium pinnatisectum* | --; --; --; 1B | Annual to perennial herb found in pine and oak woodlands, coniferous forests, and vernal pools from 200 to 3000 feet above sea level. | May – August | **None;** Though the vernal pools and grassland within the Study Area provide habitat for this species, this species was not observed during the June 12 and 13, 2017, rare plant survey. |
| ***Invertebrates*** | | | | |
| California linderiella<br>*Linderiella occidentalis* | --; CSA; --; -- | Vernal pools, swales, and ephemeral freshwater habitat. | Wet season | **High**; the vernal pools within the Study Area provide habitat for this species.<br><br>There are 25 CNDDB occurrences within five miles of the Study Area. |
| ***Amphibians/ Reptiles*** | | | | |
| Western spadefoot<br>*Spea hammondii* | --; CSC; SLC; -- | Toad found in grasslands, chaparral, and pine and oak woodlands up to 4,500 feet above sea level. Breeds in seasonal wetland habitat including vernal pools. | Wet season | **High**; the grassland of the Study Area provide habitat for this species and there is suitable breeding habitat onsite.<br><br>There is one CNDDB occurrence within five miles of the Study Area. |
| Northwestern western pond turtle<br>*Emys marmorata* | --; CSC; SLC; -- | Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodlands, forests, and grassland. | November – February | **None**; the Study Area does not provide habitat for this species.<br><br>There are two CNDDB occurrences within five miles of the Study Area. |
| ***Birds*** | | | | |
| Allen's hummingbird<br>*Selasphorus sasin* | BCC; --; --; -- | Found in chaparral, thickets, oak woodland, mixed evergreen forests, coniferous forests, riparian woodland, and residential areas. | Spring, Fall | **None**; the Study Area does not provide habitat for this species. |
| Cooper's hawk<br>*Accipiter cooperii* | --; CWL; SLC; -- | Nests in riparian corridors. Forages in woodlands and riparian areas. | Spring – Fall (Nesting) | **None**; the Study Area does not provide habitat for this species. |
| Costa's hummingbird<br>*Calypte costae* | BCC; --; --; -- | Found in desert, semi-desert, brush foothills, and chaparral. | Spring – Fall (Nesting) | **None**; the Study Area does not provide habitat for this species. |
| Double-crested cormorant<br>*Phalacrocorax auritus* | --; CSA; --; -- | Found in lakes, ponds, rivers, lagoons, swamps, coastal bays, marine islands, and seacoasts. | Spring (Nesting Colony) | **None**; the Study Area does not provide habitat for this species. |

| Special-Status Species | Regulatory Status | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| Ferruginous hawk<br>*Buteo regalis* | BCC; CFP; SLC; -- | Found in open habitats in grasslands, shrub steppes, sagebrush, deserts, saltbush-greasewood shrublands, and outer edges of pinyon-pine and other forests. | Winter | **High**; the grassland of the Study Area provides suitable wintering habitat for this species.<br><br>There is one CNDDB occurrence within five miles of the Study Area. |
| Golden eagle<br>*Aquila chrysaetos* | --; CFP; --; -- | Found in open to semi-open prairie, sagebrush, arctic and alpine tundra, savannah or sparse woodland. | Year-round | **High**; the grassland of the Study Area provides suitable foraging habitat for this species.<br><br>There is one CNDDB occurrence within five miles of the Study Area. |
| Grasshopper sparrow<br>*Ammodramus savannarum* | BCC; CSC; --; -- | Found in grasslands with sparse coverage of woody vegetation. | Spring – Fall (Nesting) | **Low**; the grassland of the Study Area provides habitat for this species. |
| Great blue heron<br>*Ardea herodias* | --; CSA; --; -- | Found in marshes, lakes, rivers, bays, lagoons, ocean beaches, mangroves, fields, and meadows. Nests high in trees. | Spring – Fall (Nesting colony) | **None**; the grassland of the Study Area provides foraging habitat for this species and this species was observed flying over the Study Area during the June 12, 2017, rare plant survey.<br><br>However, there is no nesting habitat within the Study Area. |
| Great egret<br>*Ardea alba* | --; CSA; --; -- | Found in marshes, swampy woods, tidal estuaries, lagoons, mangroves, streams, lakes, fields, and meadows. | Spring – Fall (Nesting colony) | **None**; the grassland of the Study Area provides foraging habitat for this species.<br><br>There is no nesting habitat within the Study Area. |
| Lewis' woodpecker<br>*Melanerpes lewis* | BCC; --; --; -- | Found in coniferous forests and oak woodlands. | Spring – Fall (Nesting) | **None**; the Study Area does not provide habitat for this species. |
| Loggerhead shrike<br>*Lanius ludovicianus* | BCC; CSC; SLC; -- | Found in open habitats with scattered shrubs, trees, posts, fences and utility lines for perches. Nests in densely foliaged tree or shrub. | Spring – Fall (Nesting) | **Low**; the Study Area provides foraging habitat for this species. |
| Long-billed curlew<br>*Numenius americanus* | BCC; --; --; -- | Found in mudflats and shallow marsh areas. | Spring (Nesting) | **None**; the Study Area does not provide habitat for this species. |
| Marbled godwit<br>*Limosa fedoa* | BCC; --; --; -- | Found in marshes and flooded plains. | Winter | **None**; the Study Area does not provide habitat for this species. |
| Merlin<br>*Falco columbarius* | --; CWL; --; -- | Found in marshes, deserts, seacoasts, lagoons, open pine and oak woodlands, and fields. | Winter | **Low**; the grassland of the Study Area provides habitat for this species. |
| Mountain plover<br>*Charadrius montanus* | BCC; CSC; --; -- | Winters in California in agricultural fields and grasslands. | Winter | **Low**; the grassland of the Study Area provides suitable wintering habitat for this species. |
| Nuttall's woodpecker<br>*Picoides nuttallii* | BCC; --; --; -- | Found in low-elevation riparian deciduous and oak habitats. | Year-round | **None**; the Study Area does not provide habitat for this species. |
| Oak titmouse<br>*Baeolophus inornatus* | BCC; --; --; -- | Found in oak savannah and oak woodlands. | Spring – Fall (Nesting) | **None**; the Study Area does not provide habitat for this species. |
| Peregrine falcon<br>*Falco peregrinus* | BCC; CFP; --; -- | Found in open areas near cliffs including tundra, moorlands, steppe, seacoasts, mountains, forests, and urban areas. | Spring – Fall (Nesting) | **None**; the Study Area does not provide nesting habitat for this species. |
| Rufous hummingbird<br>*Selasphorus rufus* | BCC; --; --; -- | Nests within berry tangles, shrubs, and conifers. | Spring (Nesting) | **None**; the Study Area does not provide nesting habitat for this species. |
| Short-eared owl<br>*Asio flammeus* | --; CSC; --; -- | Found in marshes, bogs, dunes, prairies, grassy plains, old fields, tundra, moorland, river valleys, meadows, savanna, open woodland, and heathland. | Spring – Fall (Nesting) | **Low**; the grassland of the Study Area provides habitat for this species. |
| Swainson's hawk<br>*Buteo swainsoni* | BCC; CT; SLC; -- | Found in savanna, open pine-oak woodland and cultivated lands with scattered trees. | Spring – Fall (Nesting) | **None**; the project site does not provide nesting habitat for this species.<br><br>There are 11 CNDDB occurrences within five miles of the Study Area. |
| Tricolored blackbird<br>*Agelaius tricolor* | BCC; CCE; SLC; -- | Nests in dense blackberry, cattail, tules, willow, or wild rose within emergent wetlands. | Spring – Fall (Nesting colony) | **None**; the Study Area does not provide nesting habitat for this species. |
| Western burrowing owl<br>*Athene cunicularia* | BCC; CSC; SLC; -- | Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. | Year-round | **High**; the grassland and burrows of the Study Area provide habitat for this species.<br><br>There are 12 CNDDB occurrences within five miles of the Study Area. |
| Western grebe<br>*Aechmophorus occidentalis* | BCC; --; --; -- | Found in marshes, lakes, and bays. | Year-round | **None**; the Study Area does not provide habitat for this species. |
| Williamson's sapsucker<br>*Sphyrapicus thyroideus* | BCC; --; --; -- | Found in coniferous forests year-round and oak and pine woodland in winter. | Year-round | **None**; the Study Area does not provide habitat for this species. |

| Special-Status Species | Regulatory Status | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| ***Mammals*** | | | | |
| American badger<br>*Taxidea taxus* | --; CSC; SLC; -- | Found in open areas and brushlands. | Year-round | **Low**; the grassland of the Study Area provides habitat for this species. |
| Pallid bat<br>*Antrozous pallidus* | --; CSC; --; -- | Found in mountainous areas, intermontane basins, lowland desert scrub, arid deserts, grasslands, and coniferous forests | Spring - Fall | **Low**; the grassland of the Study Area provides habitat for this species. |
| Silver-haired bat<br>*Lasionycteris noctivagans* | --; CSA; --; -- | Found in coniferous forests near lakes, ponds, and streams. | Spring - Fall | **None**; the Study Area does not provide habitat for this species. |

Table 2 includes state and federal species of concern and Rank 1 and 2 CNPS species.

**Table 3 — Other Species of Interest**

| Special-Status Species | Regulatory Status | Habitat Requirements | Identification/ Survey Period | Potential for Occurrence |
|---|---|---|---|---|
| ***Plants*** | | | | |
| Bisbee peak rush-rose<br>*Crocanthemum suffrutescens* | --; --; --; 3 | Perennial evergreen shrub found in chaparral from 250 to 2,200 feet above sea level. | Apr – August | **None**; the Study Area does not provide habitat for this species. |
| Brandegee's clarkia<br>*Clarkia biloba* ssp. *brandegeeae* | --; --; --; 4 | Annual herb found in chaparral, pine and oak woodlands, and coniferous forests from 250 to 3,000 feet above sea level. | May – July | **None**; the Study Area does not provide habitat for this species. |
| Brewer's calandrina<br>*Calandrinia breweri* | --; --; --; 4 | Annual herb found in disturbed sites and burns in chaparral and coastal scrub on sandy or loamy soil from 30 to 4,000 feet above sea level. | March - June | **None**; the Study Area does not provide habitat for this species. |
| Hoary navarretia<br>*Navarretia eriocephala* | --; --; --; 4 | Annual herb found in pine and oak woodlands and grasslands from 30 to 1,300 feet above sea level. | May – June | **Low**; the grassland of the Study Area provides habitat for this species. |
| Jepson's wooly sunflower<br>*Eriophyllum jepsonii* | --; --; --; 4 | Perennial herb found in chaparral, pine and oak woodlands, and coastal scrub from 650 to 3400 feet above sea level. | Apr – June | **None**; the Study Area does not provide habitat for this species. |
| Stinkbells<br>*Fritillaria agrestis* | --; --; --; 4 | Perennial bulbiferous herb found in chaparral, pine and oak woodlands, pinyon and juniper woodlands, and grasslands from 30 to 5100 feet above sea level. | Mar – June | **None**; the Study Area does not provide habitat for this species. |
| ***Invertebrates*** | | | | |
| Blennosperma vernal pool andrenid bee<br>*Andrena blennospermatis* | --; CSA; --; -- | Found in upland areas near vernal pools. | Spring - Fall | **Low**; the upland grassland near vernal pools of the Study Area provides habitat for this species. |
| Andrenid bee<br>*Andrena subapasta* | --; CSA; --; -- | Found near grassland forbs. | Spring – Fall | **Low**; the grassland of the Study Area provides habitat for this species. |
| Ricksecker's water scavenger beetle<br>*Hydrochara ricksecker*i | --; CSA; SLC; -- | Found in shallow water. | Summer – Fall | **Low**; the vernal pools and other wetlands within the Study Area provide habitat for this species. |
| Hairy water flea<br>*Dumontia oregonensis* | --; CSA; --; -- | Found in shallow water. | Summer – Fall | **Low**; the vernal pools and other wetlands within the Study Area provide habitat for this species. |
| Mid-valley fairy shrimp<br>*Branchinecta mesovallensis* | --; CSA; SLC; -- | Crustacean found in vernal pools, vernal swales, and other ephemeral water bodies. | Wet season | **Low**; the vernal pools and other wetlands within the Study Area provide habitat for this species. |

Table 3 includes Rank 3 and 4 CNPS species and non-listed invertebrates, which may not be subject to CEQA review.

# Appendix C — Plants and Wildlife Observed in the Study Area

**Plant Species Observed within the Study Area**

| Family | Scientific Name | Common Name | Native or Invasive |
|---|---|---|---|
| Apiaceae | *Eryngium vaseyi* | Coyote-thistle | N |
| Asteraceae | *Psilocarphus brevissimus* | Woolly-marbles, woollyheads | N |
| Asteraceae | *Centromadia fitchii* | Spikeweed | N |
| Asteraceae | *Lasthenia fremontii* | Fremont's goldfields | N |
| Asteraceae | *Leontodon saxatilis* | Hairy hawkbit | I |
| Asteraceae | *Cotula coronopifolia* | Brass-buttons | I |
| Boraginaceae | *Plagiobothrys stipitatus* | Great Valley popcornflower | N |
| Brassicaceae | *Raphanus* sp. | Radish | I |
| Convolvulaceae | *Convolvulus arvensis* | Bindweed, orchard morning-glory | I |
| Crassulaceae | *Crassula aquatica* | Crassula | N |
| Euphorbiaceae | *Croton* sp. | Croton | N |
| Geraniaceae | *Erodium botrys* | Storksbill, filaree | I |
| Juncaceae | *Juncus bufonius* | Toad rush | N |
| Lamiaceae | *Trichostema lanceolatum* | Vinegar weed | N |
| Lamiaceae | *Pogogyne zizyphoroides* | Sacramento beardstyle | N |
| Lythraceae | *Lythrum hyssopifolia* | Loosestrife | I |
| Onagraceae | *Epilobium* sp. | Willowherb | -- |
| Orobanchaceae | *Parentucellia viscosa* | Parentucellia | I |
| Plantaginaceae | *Gratiola ebracteata* | Bractless hedge-hyssop | N |
| Poaceae | *Polypogon monspeliensis* | Annual beard grass, rabbitfoot grass | I |
| Poaceae | *Hordeum marinum* ssp. *gussoneanum* | Mediterranean barley | I |
| Poaceae | *Elymus caput-medusae* | Medusa head | I |
| Poaceae | *Festuca perennis* | Rye grass | I |
| Poaceae | *Festuca myuros* | Rattail sixweeks grass | I |
| Poaceae | *Bromus hordeaceus* | Soft chess | I |
| Poaceae | *Avena fatua* | Wild oat | I |
| Poaceae | *Aegilops triuncialis* | Barbed goat grass | I |
| Polygonaceae | *Rumex crispus* | Curly dock | I |
| Ranunculaceae | *Ranunculus bonariensis var. trisepalus* | Buttercup | N |
| Rosaceae | *Rubus armeniacus* | Himalayan blackberry | I |
| Rubiaceae | *Galium aparine* | Goose grass | N |
| Themidaceae | *Brodiaea elegans* ssp. *elegans* | Harvest brodiaea | N |

**Wildlife Species Observed within the Study Area**

| Scientific Name | Common Name |
|---|---|
| *Ardea herodias* | Great blue heron |
| *Callipepla californica* | California quail |
| *Charadrius vociferus* | Killdeer |
| *Elanus leucurus* | White-tailed kite |
| *Himantopus mexicanus* | Black-necked stilt |
| *Zenaida macroura* | Mourning dove |